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The Magazine of Personal Multimedia

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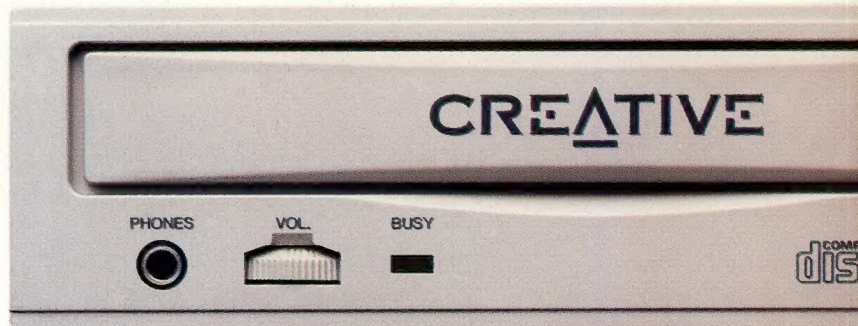
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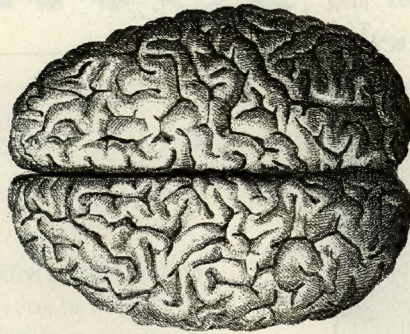
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Product Information Number 174

CD-ROM Today

The Magazine of Personal Multimedia

32



DEPARTMENTS

FirstWord

LANCE ELKO

4

The software deluge is upon us.

SoundingBoard

8

Questions and comments from readers

NewsLine

10

What's new in hardware and software, plus notes of interest

12



FEATURES

Hands On

Getting Started with Kodak Photo CD: Part 1

CHARLES BRANNON

32

Have CD-ROM, will shoot. This first installment is packed with information on making the best hardware and software decisions.

The Writer's Workshop

NEIL RANDALL and DAVID WADE

38

Setting up a writer's workbench and reference library on CD-ROM can offer you an exciting new way of working that will cut your time dramatically.

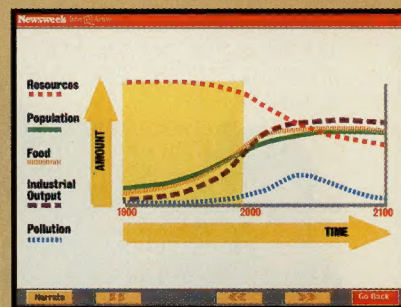
Technology

The Debut of Interactive Journalism

RANDY CHASE

46

Newsweek is pioneering a new format: multimedia news on CD-ROM. We take a tour of the first issue and look ahead at the magazine's aggressive plans.

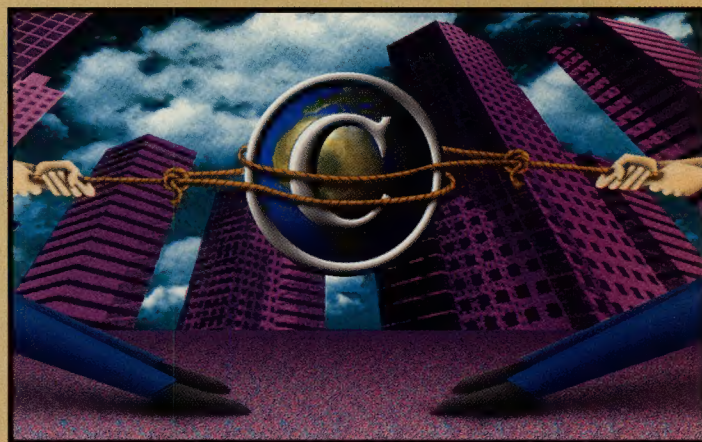


Who Owns What?

STEVEN ANZOVIN

50

One of the biggest barriers to innovative multimedia development is also one of the least discussed. Here's why.



Software

Pieces for the Puzzle: Getting the Right Ingredients for Presentations

DAVID M. RUBIN

56

Whether it's photographs, backgrounds, video, graphics, fonts, music, or sound effects, there's an abundance of quality CD-ROMs available.

The Turn of a New Page

T. LIAM McDONALD

68

Literature classics are now on CD-ROM, where cross-referencing thousands of works takes only seconds. Here's what's available.

Secrets of Myst Island

STEVEN ANZOVIN

74

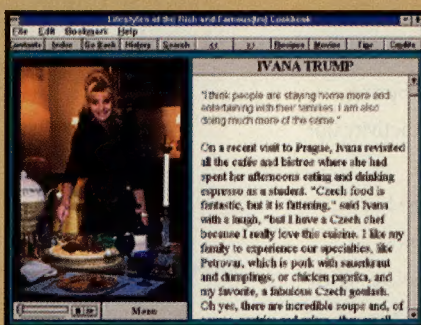
An interview with Rand and Robyn Miller, designers of one of this year's best CD-ROM games, *Myst*.

A Taste for All Seasons

ELIZABETH A. McDONALD

77

Cookbooks on CD-ROM can offer so much more than their traditional paper counterparts. But do they all deliver?



The Count Goes Interactive

T. LIAM McDONALD

80

Is *Dracula Unleashed* a game or an interactive movie? See for yourself as we take a close-up look at a new style of CD-ROM entertainment.

COLUMNS

VideoView

TIM VICTOR

28

Corporate television and communications giants are in hot pursuit of multimedia sources.

AudioFile

NEIL RANDALL

30

The chipset war for your ears is here, and there several worthy contenders.

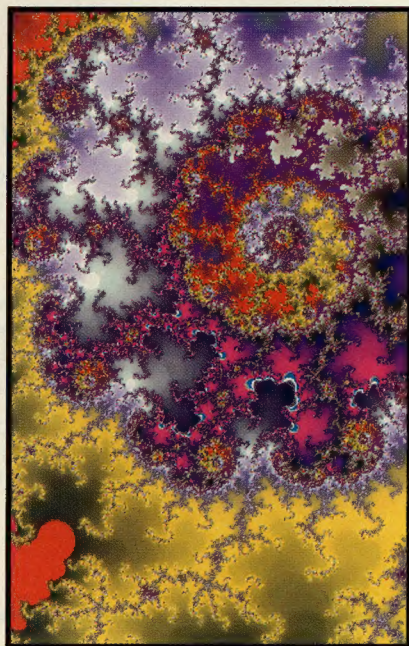
New Frontiers

TOM R. HALPHILL

112

The most innovative software-purchase method — with instant delivery, certain back-up, and 24-hour service — is on CD-ROM.

85



12



REVIEWS

Reference

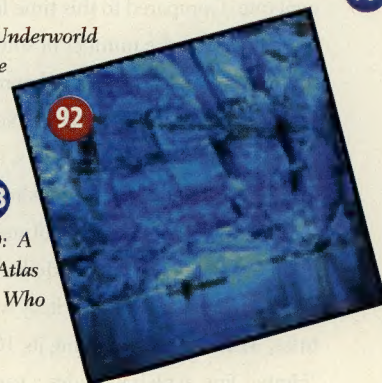
84

20th Century Video Almanac, Fractal Ecstasy and FracTools III, Vivaldi: The Four Seasons, Time Man of the Year, UFO, Sure!MAPS 2.0, Movie Select, National Parks of America, Parenting

Entertainment

95

King's Quest VI, Return to Zork, Ultima Underworld I and II, Video Cube: Space, Lord of the Rings, The Last Dinosaur Egg, The Labyrinth of Time



Education

103

The Selfish Giant, Time Traveler CD: A Multimedia Chronicle of History, Picture Atlas of the World, The Reading Carnival, Who Built America?, The Ugly Duckling, Allie's Playhouse, Columbus Day by Day

Applications

109

Tempra Vision, Professional Tutor: Learning Windows 3.1, MPC Wizard 2.0

Volume 1, Number 3

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FIRST

WORD

CD-ROM Today

The Magazine of Personal Multimedia

WINTER

With the holidays ahead, we're seeing the usual seasonal spike in software releases. In the short history of the computer software market, well over half of all titles released annually make their appearance in the fourth quarter. The CD-ROM arena is no exception. Since we closed out the editorial for this issue two weeks ago, we've received nearly 80 titles (!), and we're logging in anywhere from 4 to 12 CD-ROMs daily at this writing in the second week of November.

An accurate measurement of current CD-ROM market growth won't be available until sometime next year, but we're betting that it's presently accelerating at a phenomenal rate. Compared to this time last year, the increase in the number of software titles must be a couple of thousand percent greater. Check out this issue's "NewsLine," and you'll notice new publishers, as well as a number of familiar names making new forays into the CD-ROM multimedia sector. Sound-card manufacturer Media Vision is venturing into software territory with ten titles; Microsoft is launching its 100-title "Home" line, which includes a variety of CD-ROMs; and Sony is adding another 13 CD-ROM packages to its line.

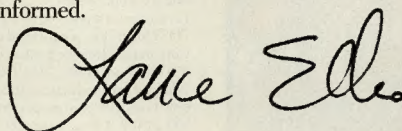
CD-ROM software is booming, but hardware is staying its usual several paces ahead. Just as everyone seems to be catching up with the double-speed CD-ROM drive, NEC unveils its new 3X CD-ROM drive (a 4X drive has been announced by NEC as well), and other drive manufacturers have told us to expect seeing their 4X drives in the first half of '94. On the video scene, the ReelMagic board is now available (we'll have a hands-on report next issue); in audio, Yamaha's OPL4 chipset is debuting (see "AudioFile" elsewhere in this issue); and

prices for multimedia hardware systems are continuing to drop.

The fall of the year brings lots of software, and it's also the season for trade shows. We've just returned from CD-ROM Expo in Boston, and we're about to make our annual trek to Las Vegas for COMDEX, the granddaddy of computer trade shows. This year, our appointments are booked solid for four days — a marked contrast to Spring COMDEX and last fall's show. Is activity up? You bet.

Historically, a software deluge has meant two things. The first, and most obvious, is that the market is receptive. With the modest exception of the IBM PCjr launch, producers and publishers have never committed resources and 6-to-12 months of development and marketing time to a platform unless they believe the buyers are there. The second point, and also quite obvious, is that whenever there's a torrent of software for an up-and-coming platform, there's an abundance of shoddy product. We've looked at more than a few CD-ROMs with catchy titles, slick packaging, and grandiose claims about delivering multimedia, only to be grossly disappointed with the content. We're also aware that this is a common pattern with all fast-growing platforms in the computer industry.

With *CD-ROM Today*, our mission is not only to promote the exciting promise of the technology, but also to maintain a critical view, especially during the first wave of the software flood. Doing this, we're all better informed.



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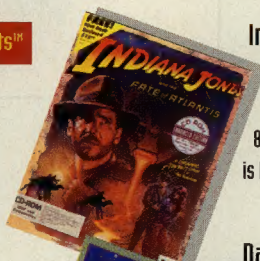


Hyper Into A New Experience In CD-ROM



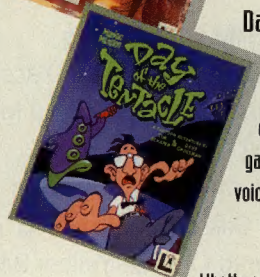
Created exclusively for CD-ROM with over 300 megs of full-throttle combat, Rebel Assault puts you in the pilot's seat for the ultimate duel between good and evil. Battle Imperial forces in over a dozen action-packed levels featuring mind-boggling 3D graphics combined with breathtaking full screen video from the Star Wars films. Defend Tatooine against Imperial attack, challenge the sinister walkers on the ice planet Hoth and fight the evil Empire in a series of all-out deepspace battles. May the Force be with you!

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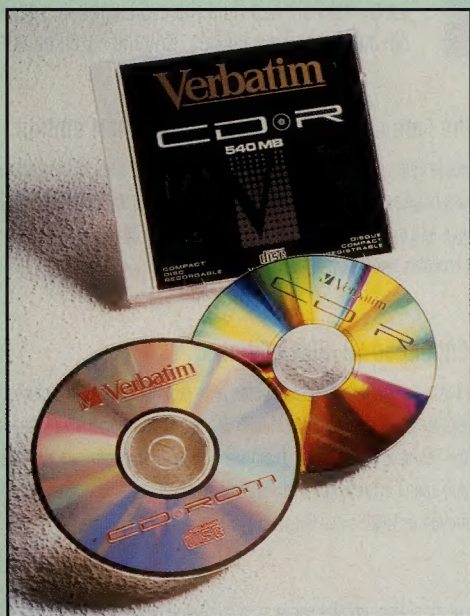
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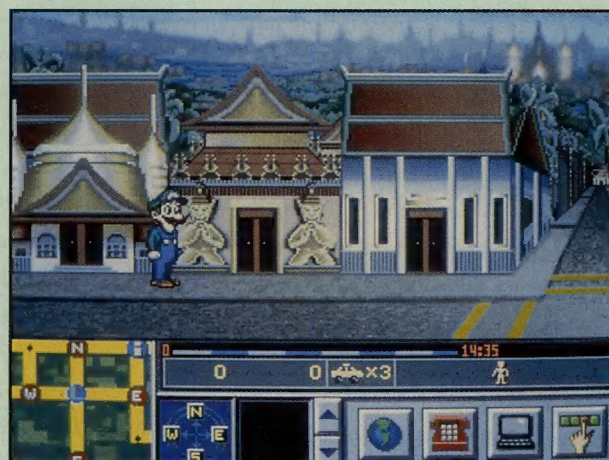
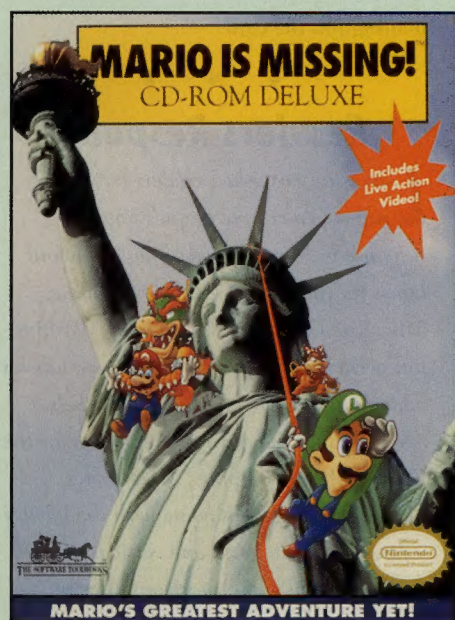
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SOUNDING BOARD

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More Info, Please

I enjoy your magazine very much, especially the in-depth reviews. However, as a library media specialist, the reviews are almost useless to me because they do not contain a complete citation of publisher, cost, system requirements, etc. In addition, it would be helpful to include the approximate grade level or ages who would benefit most from a CD-ROM.

Bernice Anne Houseward
Grand Rapids, MI

A few other readers have made the same request. We've made changes in both our second and third issues to this effect.

Most educational publishers target an age range on packaging, and we do our best to pass this along within the text of the review. After studying a product, we will occasionally disagree with the suggested range and make note of this in the review.

Megabyte Minimum

I have one CD-ROM with only three megabytes on it, and I know of others with a minimum of data that are overpriced. I think there should be a requirement that CD-ROMs indicate the amount of information they contain. What do others think?

J.D. Rigden
Merrimack, NH

We'll invite the opinion of others, and we'll add our two cents. The CD-ROMs we've seen in recent months are trending away from scanty amounts of data. As the CD-ROM market continues to accelerate, it's becoming more competitive, resulting in

fewer and fewer cases of single-digit-megabyte products. In our opinion, this problem is eroding quickly.

Going Both Ways

My husband has an IBM-based system and I have a Mac. Will the same CD-ROM drive work on either? Will CD-ROM discs be interchangeable from one platform to another?

Eleanor Blanks
Des Moines, Iowa

There are many CD-ROM drives that will work with both PCs and Macs. What they have in common is a SCSI interface. All modern Macs have a built-in SCSI interface (the hard-drive port) that can also control a CD-ROM drive. Besides the drive itself, you'll need to find driver software for both systems. You might also have to add a SCSI interface to the PC, though some systems already have one, either on a sound card or to control a large hard drive. A knowledgeable dealer can help you make sure you have the right pieces.

In general, a disc only plays on one type of system, but there's a growing trend among publishers to put all data on a single CD-ROM.

Politically Correct? Nope!

I have Macintosh equipment. To me, "PC" stands for "Personal Computer." However, the way I see it used, I assume that most use it to mean IBM compatible computer. Is this the case?

Also, there was no reply card with my magazine, and I cannot request product information.

Robert A. Zimmerman
Pittsburgh, PA

We use "PC" to refer to the IBM/compatible platform, as do many computer publications. The use of this term evolved from an abbreviated way of saying "IBM PC." We still see "PC" used to refer categorically to desktop personal computers, particularly in the general press. But, yes, we agree that this can be an area of confusion across the wide spectrum of users.

The card you're referring to should have been bound between pages 64 and 65 in our Fall issue. Unfortunately, a number of newsstand copies were shipped without these cards. Sorry. Meanwhile, we're mailing you the card.

Readers Respond

Last issue, we asked readers for some input to a couple of questions. In response to Anne Pound's question about labels for the edge of CD-ROM caddies, Mike Toennessen of Bellingham, Washington, writes that he uses a Dymo tape labeler which handles 3/8" or 1/4" wide labels. After disclaiming any representation for the Dymo Labeler company, Mike writes, "Three printing disks come with the labeler — two horizontal and one vertical style — and one prints out in horizontal script. Depending on whether your loaded CD caddies are stored in a vertical or horizontal rack, you choose the style that works for you."

Lou Wiener of Santa Clarita, California, suggests the same solution, but adds that labeler is now made by 3M. Our thanks to Mike and Lou.

Unfortunately, we've had no responses yet for Neal Mazer's request concerning a CD-ROM as a source for music lyrics.

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Media Vision Invades Software Market

Media Vision, well established as a leading sound board company, is diving head first into the software publishing market. The company has been working with a variety of developers. Two "interactive movies," *Quantum Gate* (HyperBole Studios) and *Critical Path* (Mechadeus) explore futuristic adventure themes. Each game retails for \$79.95 (MPC and Mac).

The *Personal Daily PlanIt* series (Iguana Productions), combines computerized daily planners with sets of wildlife pictures, action sports shots, or modeled swimwear photos.

Each *PlanIt* title sells for \$59.95 (MPC and Mac).

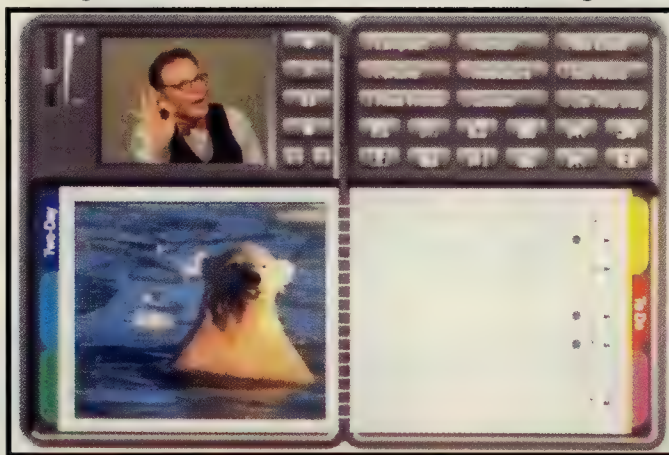
Educational titles also figure heavily in Media Vision's plans. *The Forever Growing Garden* (C-Wave),

encourages junior horticulturists. Both Mac and MPC versions of *Garden* are contained on a single \$49.95 disc. *Professor Gooseberry's I Can Read Club* (Imagina-

tion Pilots) is a series of early learning CD-ROMs (\$49.95 each, containing both MPC and Mac versions). Three *Professor Gooseberry* titles are available: *Always Arthur*, *Who Wants Arthur?*, and *Buster's First Thunderstorm*. Finally, *Peak Performance* (Ken Bell Productions) features a breakneck cross-country trek with amusing stopovers. *Peak Performance*, for both MPC and Mac, retails for \$59.95.

Media Vision

47300 Bayside Parkway, Fremont,
CA 94538
(510) 770-8600



Personal Daily PlanIt, developed by Iguana Productions, is one of ten initial titles from Media Vision.

New from Softbit

Softbit, Inc. has collected over 1000 sound effects on *Soundsations*. The same \$39.95 disc accommodates both PC (accessed through .WAV format) and Mac (through System 7 SoundEdit), and all sounds can be used royalty free in other applications. Softbit has also been busy assembling a collection of 700 renowned literary works. The *World Literary Heritage* (\$79.95) package includes works ranging from the classic tales of Dickens and Shakespeare to the political

speeches of Washington and Churchill. The DOS/Mac disc also contains selected narration from notable talents such as E. G. Marshall and Richard Burton. Finally, Softbit has updated its *Power Tools* productivity package. Version 2.0 presents 3500 applications, 500 more than the first edition. In addition to business programs and applications, 2.0 offers 200 educational and entertainment programs.

Softbit

One White Water, Irvine, CA 92715
(714) 251-8600

Sony Imports Baker's Dozen

Sony Electronic Publishing is importing a number of titles from the U.K. Through an exclusive distribution agreement with **Media Design Interactive** (MDI), Sony will market 13 new CD-ROMs under its *Affiliated Label Program*. *Dinosaurs* (MPC/Mac) features 90 minutes of video, over 200 illustrations, and narration from noted scientists; *Creepy Crawlies* (MPC/Mac) spotlights some of the ugliest creatures in creation; *Cute 'n' Cuddlies* (MPC/Mac) looks at

their adorable counterparts; *LifeSaver* (Mac) presents an interactive first-aid course; *Grooves* (MPC/Mac) offers 90 music clips that can be used royalty-free; *Image Warehouse* (DOS/Mac) performs much the same function with clip art and graphics; *ITN World News 1992* (MPC/Mac) steps you through 1992 one day at a time; and *London* (MPC/Mac) provides a full tour of the world capitol.

Sony Electronic Publishing

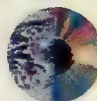
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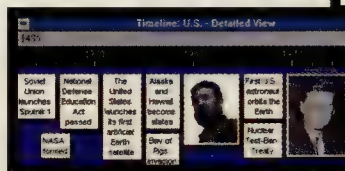


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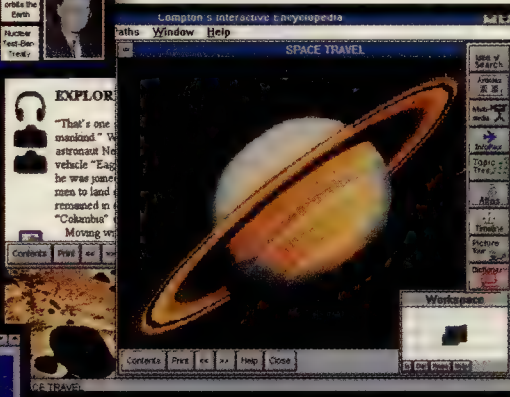
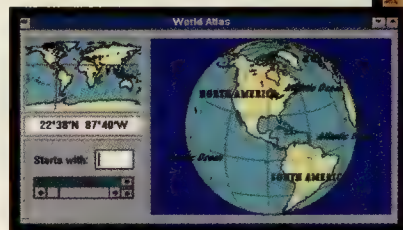


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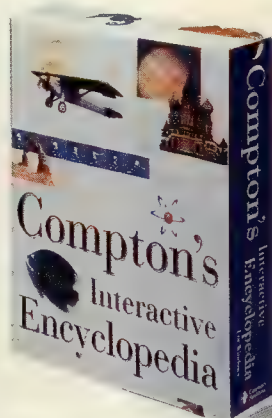
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world of knowledge through videos, animations, narrated slide presentations, audio and quickly referenced text. Still, the most compelling reason for choosing *Compton's* is this: Your children. You're giving them a tool that can increase their comprehension, stimulate curiosity and enhance motivation. Yes, and *Compton's* is fun, too. And that's what learning should be! Visit your local retailer or call 800-862-2206 for more information.

Product Information Number 106



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Microsoft at Your Door

Microsoft wants a place in your home...in a big way. The recently announced Microsoft Home software line will offer 100 software products over the next 18 months. The goal is to address the computing needs of every family member. Products fall into three broad categories: personal productivity, games, and multimedia library (reference). The first Microsoft Home products have been

released, and will carry special introductory prices through the end of '93. CD-ROM titles under the Home roof include 1994 editions of *Cinemania* and *Encarta*, as well as their existing multimedia profiles of classical composers and their works. These include Beethoven, Mozart, and Stravinsky.

Microsoft Corp.

One Microsoft Way, Redmond, WA
98052-6399 (206) 882-8080

3DO Makes October Debut

After months of hoopla, anticipation, and speculation, **Panasonic** delivered its first REAL 3DO players to vendors on October 1. The launch introduced the units in some 1500 outlets, with a suggested retail price of \$699.95. Although Panasonic has kept a tight lid on actual sales figures, some stores reported selling out of the machines.

The 3DO Company estimates a market penetration of millions of U.S. homes within two years. Despite projections of 20 titles ready for Christmas, and at least another 80 to follow in the first quarter of 1994, skepticism from some industry players continues. The first 3DO titles

available include **Crystal Dynamics'** *Crash 'N Burn*, **American Laser Games'** *Mad Dog McCree*, **Sanctuary Woods'** *Shelley Duvall's It's A*



Bird's Life, and **Humongous Entertainment's** *Putt Putt Joins the Parade*.

Sorry, Wrong Number

In our review of **Fairfield Technology's** *The Rosetta Stone* (Fall issue, p. 107), we listed Fairfield's phone number incorrectly. Fairfield can be reached at 1-800-788-0822. Our apologies for the error.

Commodore Ships Amiga CD³² System

Years ahead of competitors when it launched the Amiga-based CDTV game console, Commodore watched as marketing powerhouses Nintendo and Sega ran away with the TV-platform game market. Both were selling cruder machines with less sophisticated graphics.

Now Commodore has returned with an aggressively priced game console with very impressive specs. The Amiga CD³², as its name implies, is a full 32-bit multi-purpose box. It plugs into a TV set, and operates at twice the speed and throughput of all other game consoles, save 3DO. It plays CD-ROM software, audio CDs, CD + G, and (when licensing problems are resolved) Kodak's Photo CD. Add an optional MPEG1 module and it plays 74 minutes of CD-based video. The unit's \$399 price is well below 3DO's \$699 tag, and street prices will be even lower, of course.

Recent video samples on an MPEG-equipped Amiga CD³² were impressive. The quality surpassed ordinary videotape, as well as video run through QuickTime and Video for Windows. Without the MPEG module, however, you get a jerky 10-15 frames per second.

The CD³² is a 68EC020/14mHZ system, with 2MB of DRAM and 1KB of non-volatile RAM to store game

scores, and a double-speed CD-ROM drive. By using Amiga's Advanced Graphics Architecture chip set, Commodore has given the machine display capability of 256,000 colors from a palette of 16.8 million, far ahead of the rival Sega CD. The additional colors sometimes give an almost 3-D look.

External add-ons create even more flexibility. With them, theoretically, eight people could play at once. A high-speed serial connector is available to make an auxiliary port that interfaces with an Amiga keyboard or another game machine. CDs load on top, unlike the front-drawer mechanisms of CDTV and rivals Sega CD and 3DO. Eleven buttons on the controller give software developers more options, while rival systems carry only eight buttons. CD³² could easily become a complete computer system.

Despite all of the hardware bells and whistles of its CD³², Commodore has the formidable task of awakening buyer interest. The company is tackling this chicken-and-egg problem in several ways. Though the CD³² is already selling in Europe, Commodore plans a more restricted campaign in the U.S., and is considering unconventional marketing outlets, such as the QVC home-shopping network. Commodore favors regional

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Product Information Number 164



campaigns in electronics and prefers retailing through discount stores and even office-supply warehouses over conventional computer outlets.

For the failed CDTV,

Commodore produced a range of titles — games, encyclopedias, even a gardening program. But customers

wanted more and more games, says John DiLullo, vice-president of marketing. So this time the emphasis is on shoot-and-conquer games, including the monster video-game hit

Mortal Kombat from Acclaim. Titles will also be coming from Bullfrog, Gremlin, and Millenium. Ocean will be represented with a Jurassic Park title. Sachs Entertainment's *Defence of the Crown 2* is also on the list. The Insight series from Optonica — *Dinosaurs*, *Technology*, *Living Body*, and *Pandora's CD* — adds some intellectual content, as does a version of *Grolier's Encyclopedia*.

Commodore is converting 30 of its top-selling titles for CDTV, including *Oscar* and *Surf Ninjas* from Flairsoft,

Gremlin's *Zool*, the Discis' Kids Can Read series, and *Sim City*. The two systems are not compatible, but Commodore is considering offering registered CDTV owners a price break. It's worth noting that Commodore is being cagey about its MPEG price, likely waiting to see what competitors do. Module prices around \$250 are being bandied about. It won't be long before we see if the machine's price or the attraction of popular game titles will help the CD³² fare better than CDTV.

— Anne Gregor

Notes of Interest

Sanctuary Woods' new licensing agreement with Ripley's Believe It or Not! should introduce new generations to the popular newspaper attraction, currently marking its 75th anniversary. The agreement covers a five-year period of development for CD-ROM and interactive cable. Ripley's will open its extensive library of film, puzzles, photographs, and oddities to Sanctuary Woods, which is planning a '94 release for its first Ripley's products.

Sanctuary Woods, 1875 S. Grant St., San Mateo, CA 94402 (415) 578-6340

- The *Family Doctor* has received some new treatment for its third edition. Creative Multimedia has added animation, video clips, and audio to the medical reference

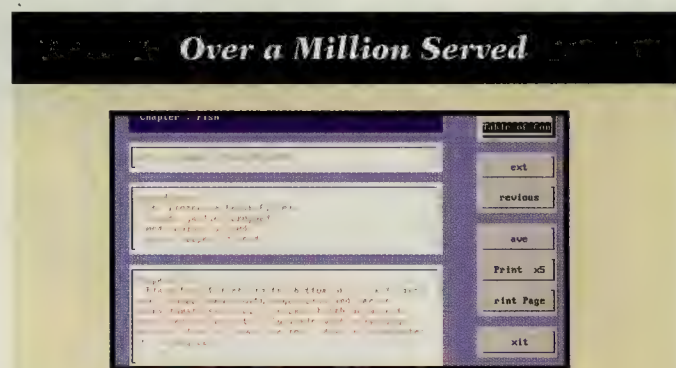
CD-ROM, available for MPC and Mac. In addition to enlivening the disc's presentation, this *Family Doctor* contains a new first-aid segment and updated versions of its anatomy, prescription drug, and Q & A sections. Although the *Family Doctor* retails for \$79.99, earlier purchasers can upgrade to the third edition for \$29.99 (plus \$4 shipping and handling). Creative Multimedia Corp., 514 NW 11th Ave., Suite 203, Portland, OR 97209 (503) 241-4351

- Access Software is touting its *Under A Killing Moon* as the first-ever interactive movie. Scheduled for a February release on two CD-ROMs, *Killing Moon* will take its viewers/participants to a "Virtual World" and enlist their

help in solving mysteries. According to early reports from the staff of one of our sister magazines, *Under A Killing Moon*, which stars Margot Kidder and Brian Keith, is a knock-out. Access Software,

4910 W. Amelia Earhart Dr., Salt Lake City, UT 84116 (801) 359-2900

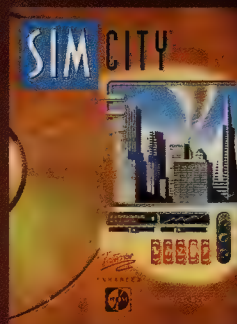
- *Backroad Racers* is the second installment in Revell-Monogram's Power Modeler series, and this time the focus



Later in this issue you'll find a feature on CD-ROM cookbooks. One product not mentioned is J&D Distributing's *CookBook U.S.A.*, which wasn't available until just days before going to press. *CookBook U.S.A.* serves up more than one million recipes culled from 4000 different regional cookbooks. The DOS-based CD-ROM allows users to file away favorite recipes or print them out in two different-sized formats. J&D Distributing, which will sell *CookBook U.S.A.* for \$49.95, estimates that the program represents the input of over 200,000 cooks. J&D Distributing, P.O. Box 1375, Orem, UT 84059-1375 (800) 847-2890

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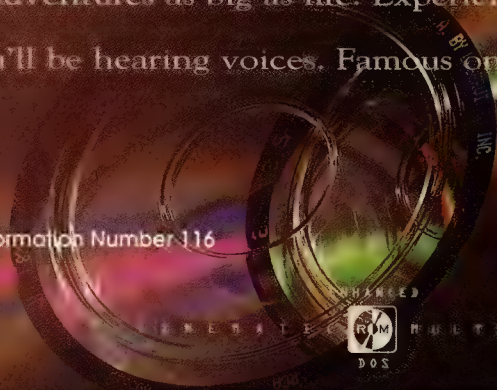
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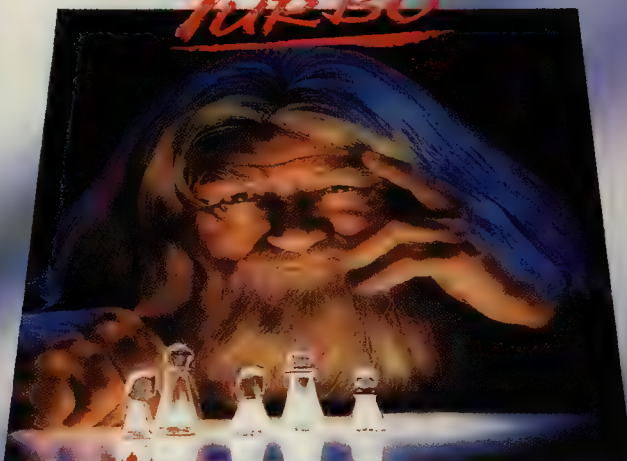
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Product Information Number 142

Sixty Minutes or Bust



If you're interested in a) creating Windows-based multimedia presentations, and b) learning the ropes quickly, then meet SST (Super Show & Tell). Ask Me Multimedia Center is so serious about accelerating the learning curve with SST that they've posted a daring guarantee: your money refunded if you aren't able to create a multimedia presentation within one hour. SST is structured something like a slideshow carousel and lets you import motion and sound into your presentation. SST retails for \$149 and includes clip media. Ask Me Multimedia Center, 7100 Northland Circle, Ste. 401, Minneapolis, MN 55428 (612) 531-0645

is on muscle. The CD-ROM contains modeling tips conveyed via 3-D polygon animation and an offroad-racing game showcasing the program's muscle cars: the Boss 302 Mustang; the Chevelle SS396; the Malibu SS Pro Street; and the Hemi Barracuda. Along with the CD-ROM, *Backroad Racers* includes a Boss 302 Mustang model kit. *Revell-Monogram*, 8601 Waukegan Rd., Morton Grove, IL 60053 (708) 966-3500

- **Procom** is the latest hardware developer to introduce a double-speed ROM drive. Positioning its PCDS-DS series as an affordable alternative to pricier speed demons, Procom has set suggested retail prices at \$295 (internal) and \$345 (external). For another \$150 tacked on to either unit price, Procom adds a 16-bit sound

board. The PCDS-DS series offers a transfer rate of 300KB/sec and a seek time of 350 milliseconds. *Procom Technology*, 2181 Dupont Dr., Irvine, CA 92715 (714) 852-1000

- **Dinosaur Discovery**, an MPC CD-ROM from **Applied Optical Media**, places a solid accent on information. More than 150 dinosaurs (and other prehistoric animals) are described in-depth, with referenced data and detailed illustrations. Thirty different slide shows are included (with narration), dealing with dino-topics from archaeological digs to behavioral theories, as well as games designed to boost users' dinosaur identification powers. *Applied Optical Media Corp.*, 1450 Boot Rd., Bldg. 400, West Chester, PA 19380 (215) 429-3701

- **Cardinal Technologies** is offering two versions of its multimedia upgrade kit, each

including sound cards, speakers, double-speed drives, and bundled software. The **Sensory System I** (\$599) features the **Digital Sound Pro 16** soundcard, **Labtec CD-150** stereo speakers, a **Sony CDU-31A-03** double-speed internal drive, and **Voyetra Technologies** PC audio/multimedia software. The software packed with the **Sensory System I** includes *Compton's MultiMedia Encyclopedia*, *Arthur's Teacher Trouble*, *Return of the Phantom*, and *F-15 Strike Eagle III*. The **Sensory System II** (\$699) offers roughly the same package, but includes a **Digital Sound Pro 16** Wavetable sound card, **Labtec CS-800** speakers, and **Asymetrix's Compel** and **MediaBlitz!** presentation software. *Cardinal Technologies*, 1827 *Freedom Road*, Lancaster, PA 17601 (717) 293-3000

- **Syracuse Language Systems** is bringing its award-winning *Playing with Language* CD-ROM software series to an older audience. *TriplePlay Spanish*, *TriplePlay English*, and *TriplePlay French* replace traditional lesson plans with interactive computer games. Each *TriplePlay* disc is built on a vocabulary base of over 1000 words and phrases, and includes a voice-recording utility that lets users compare their pronunciations to those of a native speaker. *Syracuse Language Systems, Inc.*, 719 *East Genesee St.*, Syracuse, NY 13210 (315) 478-6729

- **Labtec's** latest offerings include the **CS-400** speakers (\$149.99), which feature a magnetically-shielded, two-piece design with 3-inch woofers and 2-inch tweeters. Additionally, Labtec's new **C-22** headset/boom mic is geared toward multimedia applica-

Mow on the Way



Great Britain's The Sales Curve will soon be shipping The Lawnmower Man, a PC (DOS) CD-ROM adaptation of the sci-fi film. The movie, based on the Stephen King best-seller, focuses on the brave new world of virtual reality. The Lawnmower Man sports three distinctly different styles of game play, as well as original film footage. Look for visuals of computer-generated environments, including 3-D graphics and 360-degree cinematic pans. Mac CD-ROM and Sega CD versions of The Lawnmower Man are in the offing for the first quarter of 1994. The Sales Curve, The Lombard Business Centre, 50 Lombard Rd., London, England SW11 3SU (44) 71-585-3308

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Product Information Number 110

tions, particularly those centered around voice recognition. The C-22 retails for \$24.99. *Labtec, 11010 NE 37th Circle, Unit 110, Vancouver, WA 98682 (206) 896-2000*

- **Save-On Software** is shipping a new CD-ROM title as well as its second shareware compilation. *Digital Tours: United States of America* is an electronic almanac for Windows, with over 500 hi-res maps and pictures, plus a grab-bag of information on all 50 states. Slide shows are also included about each state, as well as selected topics. *The Ultimate Shareware Collection:*

Volume II assembles DOS and Windows programs on one CD-ROM, covering everything from children's educational programs to financial applications. *Save-On Software, P.O. Box 1312, Westminster St., Wilkes Barre, PA 18703-1312 (717) 822-5452*

- **Wearnes Technology's** Beethoven MPC-2 system, aside from offering standard multimedia features, allows users to transfer video output to their regular television screens via an SVGA-to-NTSC converter. Beethoven MPC-2 (listing for \$1495) includes a Windows-based 486SX MPC; Wearnes' double-speed

multisession CD-ROM drive (380 ms access/307 Kbytes/sec transfer rate); and a 16-bit Wave Table/DSP stereo card featuring Voyetra's "Audio-

Station" and HSC's "Interactive." *Wearnes Technology, 1015 East Brokaw Rd., San Jose, CA 95131 (408) 456-8838*

Visual Aid

Windows users with 1024 x 768 screen resolution have to endure one extremely annoying problem: most MPC products run only in 640 x 480 mode, meaning that on a 1024x768 screen they appear in a tiny window using only a fraction of the screen. Seeing the program full-size means changing video resolutions, and restarting Windows.

Binar Graphics' AnyView piggybacks on your regular Windows display driver and lets you change screen resolutions on the fly. If you need to do this frequently, you can keep the AnyView toolbar on top at all times, clicking in the desired resolution as you require it. AnyView also lets you change the number of colors shown, but for that you must restart Windows. In addition, you can associate specific programs with specific resolutions, and AnyView will switch automatically when they load.

AnyView, with a regular SRP of \$99, is carrying a special introductory price of \$69.95 until the end of the year.

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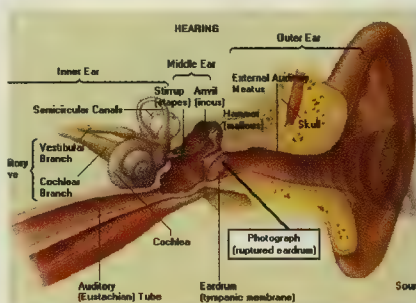
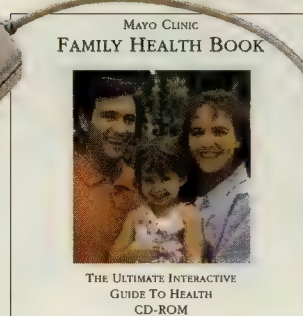
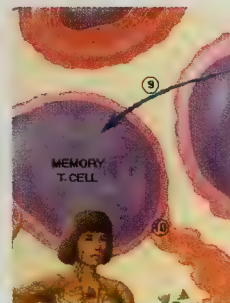
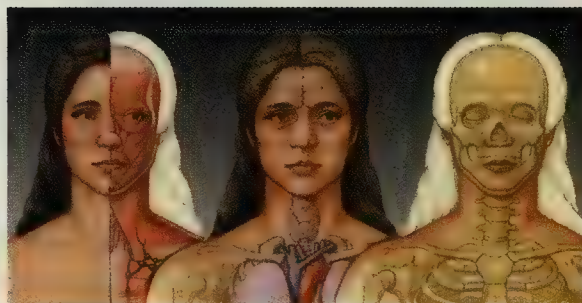
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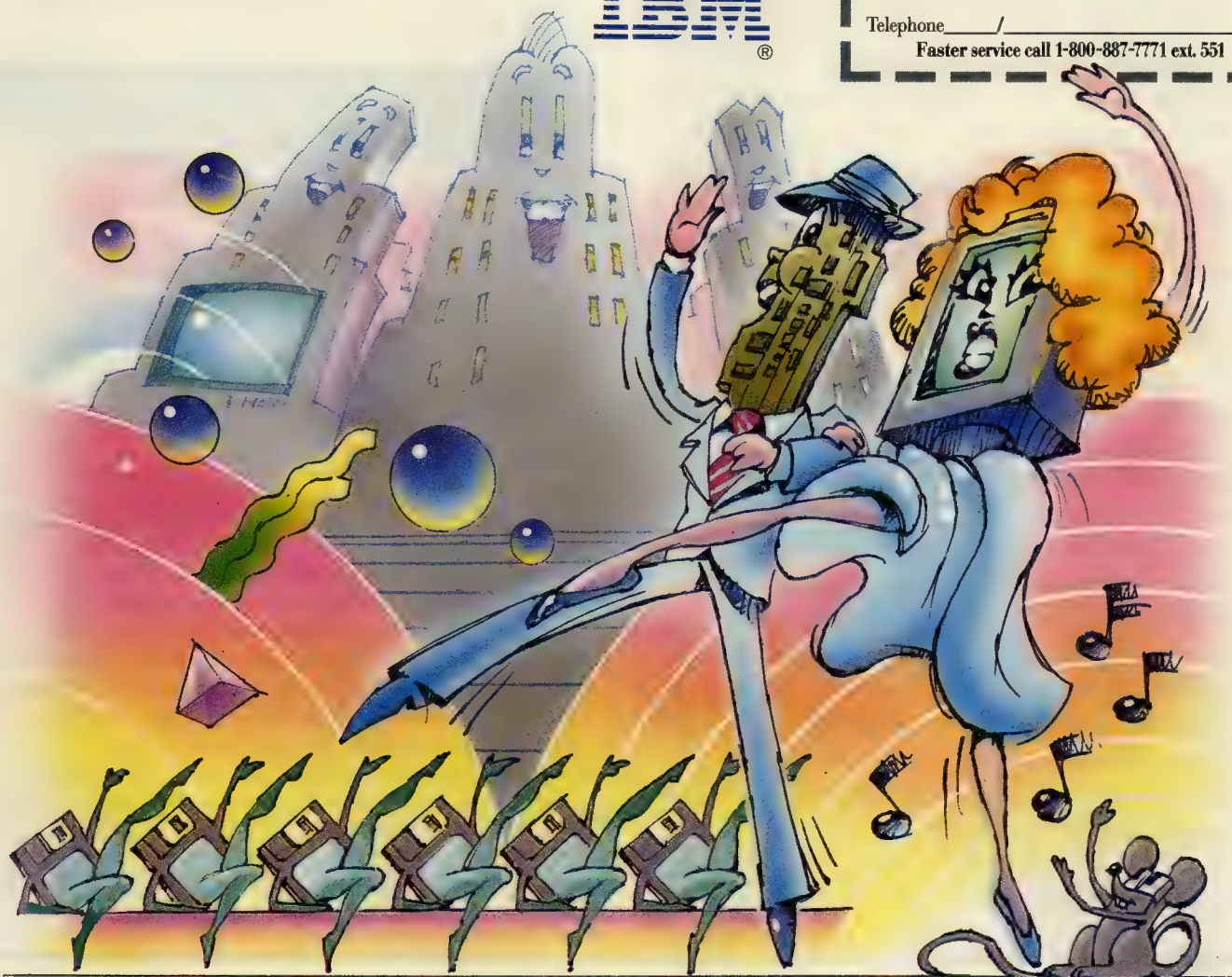
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- **Mac on Mac: Late '93** should see the Macintosh release of *Voyager's Macbeth*, in which Shakespeare's classic tragedy gets the royal multimedia treatment. *Macbeth* presents the entire play in annotated form, with pop-up windows explaining unfamiliar terms. Also included are ten essays covering related topics, and a performance of the play by the Royal Shakespeare Company. Thanks to a karaoke-like feature, viewers can pick a role and perform along with the rest of the mummies. *Voyager*, 578 Broadway, Ste. 406, New York, NY 10012 (212) 431-5199
- One of the most successful CD-ROM titles to date is being freshened up for a second outing. Like its predecessor, *DeLorme's Street Atlas USA: Version 2.0* maps the entire U.S., and lets you zoom in on selected areas, right down to individual streets. The updated version, which is DOS-based, includes more than 10,000 new roads (compiled by 50 cartographers) and features printing in a variety of different scales, in color or black and white. The new *Street Atlas USA* retails for \$169, but registered owners can upgrade for \$49. Users who purchased copies after August 16, 1993, can receive their upgrade free. DeLorme is also offering a Mac version of its original *Street Atlas USA* for \$169. *DeLorme*, P.O. Box 298, Main St., Freeport, ME 04032 (207)

865-1234

- **Megamedia Computer Corp.** has introduced two multimedia upgrade kits, both of which meet MPC Level 2 specs. The 535M Mega model features Chinon's CDS535 Internal SCSI-2 CD-ROM drive (average access speed: 250 ms; data transfer rate: 300 KB) which is Multisession Photo CD and XA ready. Additionally, the 535M kit includes a Pro Audio Spectrum 16 Sound card (with SCSI interface), magnetically shielded speakers, cables, and a collection of CD-ROM titles (*Grolier's Multimedia Encyclopedia 1993*, *Newsweek Interactive*, Kodak Photo CD software, and more). Megamedia's 535 kit offers much the same package, but without the speakers and cables, and fewer software titles. Prices for the two kits run \$649 for the 535M and \$499 for the 535S. *Megamedia*, 1701-D Fortune Dr., San Jose, CA 95131 (800) 634-2633

- **Genoa Systems**, a leading PC video hardware manufacturer for years, is continuing its foray into PC audio with a new sound board, the AudioBlitz Classic. For \$79 (suggested retail price), users can record and playback in either 8 or 16-bit modes. The AudioBlitz Classic (compatible with Sound Blaster, AdLib, and Windows Sound Systems) offers two compression methods, PCM and ADPCM, and features an internal 4-watt

amp, eliminating the need for an additional power source to amplify external speakers.

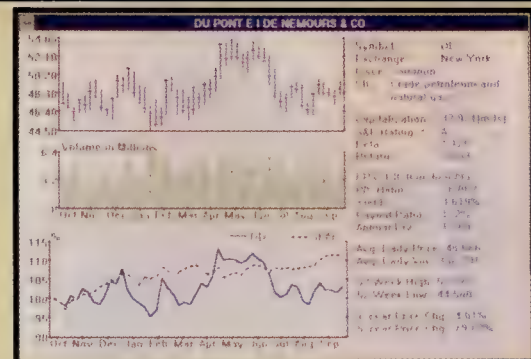
Genoa Systems, 75 East Trimble Rd., San Jose, CA 95131 (408) 432-9090

- **Walnut Creek** has unveiled its latest lineup of fall ROM titles. *The Space and Astronomy CD-ROM* is a collection of 1000 images and 5000 text files, all pertaining to space exploration, the planets, and astronomy. Walnut Creek is also targetting NeXTSTEP Intel users with *Nebula CD-ROM*, an assemblage of utilities, games, and productivity applications. Finally, Walnut Creek has been busy compiling electronic texts for *Project Gutenberg*, a CD-ROM

with an admirable aim: to collect more than 10,000 of the world's most important books on disc by the year 2001. For this go-round, *Project Gutenberg* is offering classics such as *Aesop's Fables*, *Moby Dick*, and the Magna Carta. *Walnut Creek*, 1547 Palos Verdes Mall, Ste. 260, Walnut Creek, CA 94596

- There appears to be a growing number of titles covering 3-D modeling and animation. If you're interested in these subjects, but aren't sure how to get started, check out *3-D Tutor* by *Zelos*! The Mac-based program steps you through basic 3-D design concepts. *3-D Tutor* also lets you test drive demo versions of

Best Seller Now on CD-ROM



Intuit's Quicken, the best-selling personal finance program, is now shipping on CD-ROM. Based on our early look at CD-ROM Expo in Boston, we were highly impressed. Quicken for Windows CD-ROM Deluxe Edition includes version 3 of Quicken, Quicken Companion 2 with online documentation and a new Home Inventory program, The Wall Street Journal Video Guide to Money and Markets, The Wall Street Journal Personal Finance Library, Tradeline Electronic Stock Guide, and more than 20 U.S. government publications on personal finance. We especially liked the integration of modules, the multimedia features, and the wealth of information on this disc. Look for in-depth coverage next issue.

Street price is expected to be \$70.95. Registered Quicken users can mail in a \$10 in-box rebate form, and first-time buyers can use a \$5 rebate offer. Upgrades are available directly from Intuit for \$64.95, including shipping and handling, by calling (800) 624-8742.

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18 different 3-D software packages. *Zelos!*, 535 Pacific Ave., San Francisco, CA 94133 (415) 788-0566

- **American Databankers** is expanding its Software Vault series of CD-ROMs with two new titles. *The Games Collection* packs hundreds of games covering all categories

onto one disc, while *The Windows Collection* is, appropriately enough, a bundle of Windows applications. Each new title contains "The Librarian," which performs speedy content searches. *American Databankers*, 5220 East 69th Place, Tulsa, OK 74136-3407 (918) 497-1201

- **St. Louis-based Milliken Publishing** has created educational software for 12 years, and has recently introduced its first CD-ROM. *The Big Bug Alphabet Book* (originally written by Patricia and Fredrick McKissack and produced in association with AVTEX) targets ages 4 through

7 and includes a storybook kids can use away from the computer. *Milliken Publishing Co.*, 1100 Research Blvd., P.O. Box 21579, St. Louis, MO 63132 (800) 325-4136

- **Dino-bundling: Packard Bell** has secured the U.S. rights to bundle **Ocean Software's** *Jurassic Park* with its desktop PCs, including their multimedia line. The game will be pre-installed on the hard drive, along with MS-DOS 6.0, *Windows*, **Software Toolworks' Multimedia Encyclopedia**, *Chessmaster 3000*, and *World Atlas*. Prices on Packard Bell's line of PCs range from \$999 to \$2399, and its multimedia systems retail between \$1499 and \$2599. Prices include monitor. *Packard Bell*, 9425 Canoga Ave., Chatsworth, CA 91311 (818) 886-4600

- **Dynamic Dimensions Development** has shipped its debut product *Morphman: The Challenge of the Queaxmar Experiments*, the opening installment in a series of Windows-based *Morphman* CD-ROMs. The premise: Superhero *Morphman* alters his molecular structure and morphs into other life forms and inanimate objects to aid his crime-fighting efforts. *Morphman* titles will debut at Radio Shack stores nationwide before entering other retail and catalog venues. *Dynamic Dimensions Development*, 512 Main St., Ste. 1014, Fort Worth, TX 76102 (817) 336-1105

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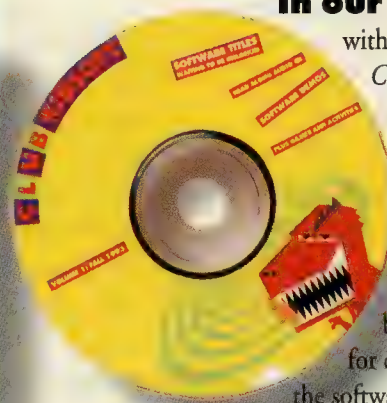
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- A New Year, A New Name...Effective January 1, CD-ROM drive maker **Texel** will officially be known as **Plextor**.
- "Live Long and Purchase" could be the motto behind *Greenberg's Guide to Star Trek Collectibles*, a CD-ROM price guide aimed at collectors of Trekkie memorabilia, such as toy phasers and Enterprise belt buckles. The DOS-based CD-ROM, published by the MCS Group, contains information previously collected by Greenberg Publishing and couples it with 400 images and a search engine for quick retrieval. In

case you're wondering if this subject deserves a \$79.95 CD-ROM, consider that after two television series and six motion pictures, there are more than 3000 types of Star Trek collectibles. *MCS Group*, 2465 West Chicago St., Rapid City, SD 57702 (605) 341-6755

- Attention, Inventors! Rapid Patent is launching a new CD-ROM that promises quick access to over 20 years worth of U.S. patent information. *Patent Scan* gives you the lowdown on more than 1.7 million patents, stretching from 1974 to the present. Updates will be offered

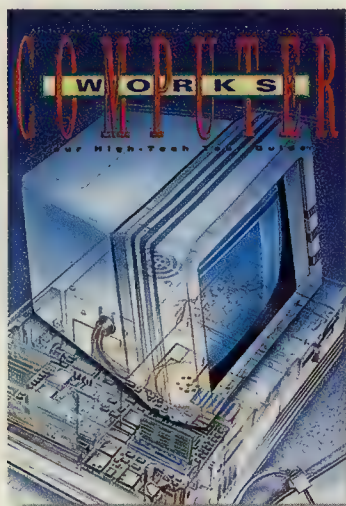
through various subscription plans. *Patent Scan's* standard edition will carry a suggested retail price of \$995. *Rapid Patent*, 1921 Jefferson Davis Hwy, Ste. 1821D, P.O. Box 2527, Eads Station, Arlington, VA 22202 (800) 336-5010

- Although most of **Pixel Perfect's** efforts have been in floppy-disk DOS and Windows formats, the medical software publisher will change that with *Home Medical Advisor Pro* for CD-ROM. The product's accent is on accessibility, with conveniently organized databases and information that laypersons shouldn't have trouble

digesting. *Pixel Perfect*, 10460 S. Tropical Trail, Merritt Island, FL 32952 (407) 779-0310

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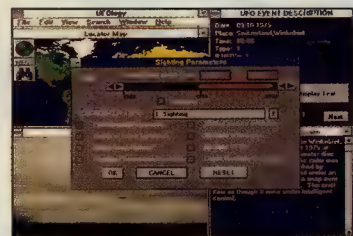


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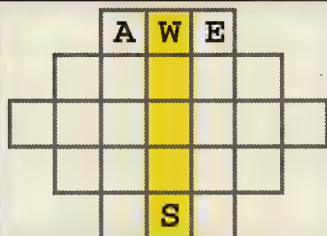
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ASK	TABLE	FIT	GAMES	THE
NEBULAR	RUNNING	CAPTAIN	TRILOGY	CARRIER
SPACE	AWE	ROGUE	FAR	PRINT
ANT	GREAT	JET	FIGHT	WIN

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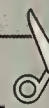


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CLIP AND MAIL



Is This the TV of the Future?

In my first two columns, we looked at ways to put moving video on a CD-ROM. Technologies like QuickTime, Video for Windows, and MPEG I video allow publishers either to use full-motion video as an element in multimedia CD-ROMs, or to use a CD as a convenient, low-cost delivery vehicle for ordinary movies. Now it's time to turn the telescope around and look through the other end at digital technologies that might soon be delivering interactive multimedia, the usual content of CD-ROMs, over channels like phone systems and cable TV.

In the digital world, all content is represented by bits, discrete symbols each having a value of zero or one. And a bit is a bit is a bit, whether it's expressed as an electric pulse in a wire, a sparkle of light in a thin thread of glass, or a dent on a shiny plastic disc. A medium that can store word-processor files or computer programs can also carry digital sound and video, and vice versa. All that matters is having enough bits to store your content, and being able to transfer the bits as fast as your application needs them.

657 Channels and Nothing On

The standard for sound has been digital since the arrival of the compact disc, and now video is making the same move. Phone companies are preparing to offer video services, and cable-TV operators want to add more programming — digital video technology is where they're turning. It's part of The Great Convergence, a blurring of the boundaries between computers, consumer electronics, communication, and entertainment. As the signals and data they work with become more alike, telephones, televisions, and computers are becoming more alike as well.

Invariably, news reports of advanced cable systems like Time-Warner's Orlando project or Viacom's Castro Valley system mention the 500 or 700 TV channels that will be available. And just as predictably, skeptics ask whether they'll actually offer any more worthwhile programming, or just hundreds of new pay-per-view and home-shopping channels.

But those large numbers of channels are simply indications of the *capacity* of the networks. "Five-

hundred channels is a myth," says Michael Grant, a producer with Sanctuary Woods. Formerly a member of Apple Computer's Interactive Television team, Grant predicts that "channelization will disappear, and content will take the priority."

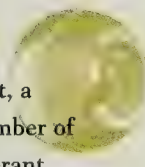
The same digital technology that increases capacity also opens the door to different types of content. Digital systems can offer two-way communications and telephone-like *signal switching*. What lets us talk to millions of different people over a single telephone channel can also let viewers customize the programming they receive instead of choosing from a fixed set of channels.

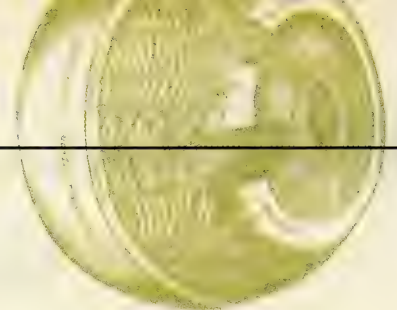
Video-on-demand represents one type of new content: viewers watch the shows they want when they want them, possibly even with VCR-style fast-forwarding and rewinding. But the possibilities are richer than that, and the content that has industry most excited is interactive multimedia. Bits are bits after all, and a proposed digital-cable TV channel has approximately the same capacity as a single-speed CD-ROM drive (MPEG I compression lets CD-ROMs play full-screen compressed digital video, but just barely). With switching and two-way communication, a computer can get the data it needs off of a network, just as it requests more data from a CD-ROM drive.

According to Terry Hershey, president of the Time-Warner Interactive Group, the biggest challenge in delivering multimedia on both CD-ROM and cable comes from the playback hardware, not the delivery system. Hershey says, "The point is not how it's delivered, what's important is the title. We have the capability to simultaneously deliver the same title on CD-ROM and on cable."

The Value of Experience

For the television and communications industries, interactive media is an exciting possibility, but it's already a big business for game developers and multimedia publishers. Traditional media are looking for examples of successful interactive products, such as





cartridges for Nintendo and Sega video games, which exceeded \$5 billion in sales last year. The CD-ROM market is somewhat smaller, but it's rapidly growing, and the education, entertainment, and reference titles on CD-ROM could have a wider audience than video games, which seem to appeal mainly to teenage males.

According to Michael Knox, CEO of Park Place Productions, one of North America's largest consumer software developers, multimedia is the bridge to the new world. Park Place has developed product for publishers like Electronic Arts, Interplay, Virgin, and Compton's, as well as for its own Spirit of Discovery label. "We're creating bridge products now, movies with a little interactivity, and fully interactive titles with some moving video. Hollywood's used to thinking linearly, in straight-line terms, but as game developers, we've had to think things out many different ways."

Hollywood recognizes the value of this experience, and companies like Time-Warner and Paramount have established their own interactive media divisions to develop these skills in-house. Other companies have chosen to purchase expertise. CD-ROM publisher Icom Simulations was recently acquired by Viacom, joining the same corporate family as Nickelodeon and MTV, while The Tribune Company has added Compton's NewMedia to its newspaper and TV station holdings.

How will independent publishers fare against such giants? Sanctuary Woods' Grant is cautious: "There isn't anything that will assure the success of CD-ROM publishers. It depends on their skills, their choice of partners, and their development experience." But he stressed the value of their experience in interactive media. "We're learning to tell stories and use interactivity in a way that adds value to the rest of the material. That's of value to a television programmer."

Many Unsettled Issues

It's still early in the game, and so far there are more questions than answers, such as who controls access to the Information Highway and who collects the tolls. Will local utilities decide on the programming you get, as cable operators currently do, or will you be able to choose from any information service, like you can with a modem and a phone line? Will you pay by the month, the megabyte, or the minute? Or will commercial sponsors keep supporting most programming?

There are standards to set as well. When the public telephone system was built, Bell Telephone made sure all the equipment worked together. No such monopoly dictates multimedia standards, and no one wants one either. But more hardware systems have been proposed

than could possibly survive: 3DO's system was designed from the start to work with cable as well as CD-ROM; a powerful alliance of Microsoft, Intel, and cable TV giant General Instruments is working on its own standard, possibly built

around Microsoft's Modular Windows; Nintendo and Silicon Graphics will supply TV set top boxes for Time-Warner's interactive cable system in Orlando; and Kaleida, a joint effort by Apple and IBM, might be developing the most sophisticated multimedia standard of all. Will each network have a single standard, or will you be able to connect cable converters, game consoles, and PCs to the same information utility? No one knows yet.

But like it or not, you're part of a select test group. As one of interactive multimedia's early users, your choices and preferences are helping to shape an important new artform. The systems you support, the discs you buy, and the ones you like and recommend to your friends could play a big part in determining what the television of tomorrow will be.

So far there are more questions than answers, such as who controls access to the Information Highway and who collects the tolls.



The Chipset War for Your Ears

Most computer users are aware of the microprocessor chip wars of the past decade. Intel, with its 80X86 line, has controlled the IBM market, while Motorola's 680X0 sets have established a separate standard in the Macintosh. Now the war is escalating, with DEC's Alpha chip, Intel's Pentium, IBM/Apple's PowerPC, and others — and all will likely make purchase decisions quite difficult in the near future. While it might be confusing, it's at least well documented.

Not so in the world of sound chips. Every sound board manufactured is based around a specific chip or chipset, and when you pick up a sound board package, you can't often tell which chipset it's built around. With sound cards now included in an increasing number of PC systems, and with some PC manufacturers putting sound on their motherboards, knowing more about what you're getting is increasingly important. The good news is that competition is breeding better sound technology all the time, but the bad news is that most of us don't know the basic differences between the audio technologies we can choose from. Let's look at three prominent examples of competing chipsets.

A Fundamental Rivalry

The sound chip most widely used by manufacturers is the Yamaha OPL series: the OPL2, the OPL3, and the upcoming OPL4. The OPL family is found on boards from Creative Labs (Sound Blaster series) and Media Vision (Pro Audio Spectrum series), and these boards are best sellers. But companies such as Diamond Computer Systems and Computer Peripherals are producing boards with Sierra Semiconductor's Aria chipset, which has different capabilities. Adding to the choices, Turtle Beach uses the Proteus chipset on its high-end MultiSound card, but has opted for a proprietary set for its upcoming line.

Until now, the basic difference between chipsets has been whether they employ FM synthesis (the OPL family) or wavetable lookup (Aria and Turtle Beach). Essentially, with FM synthesis you hear a simulation of a sound (i.e., the sound is artificially synthesized), while

through wavetable lookup you hear a sample of the sound (i.e., a recording of the real sound). Clearly, sampled sound will hold the edge in realism, but wavetable lookup also increases the demands on your computer. As a result, samples have to be built into the sound card itself, or, as in the case of Advanced Gravis' UltraSound board, they use your computer's RAM.

With the introduction of the OPL4, however, the scene has suddenly changed — the OPL4 combines FM synthesis and wavetable lookup on the same chip. Since wavetable lookup yields much better sound than FM synthesis, boards using the OPL4 will be capable of delivering much stronger sound. And perhaps vital for the gaming community, retaining FM synthesis allows the OPL4 to be fully backwards compatible with the OPL3 and OPL2. Finally, the unique combination can be used to produce a total of 44 different voices, 20 of them FM synthesized and 24 of them as waves.

By comparison, the Aria chipset design and Turtle Beach's proprietary design allow a total of 32 voices. All 32 are waves, so the quality is higher. But if the right combination of wave and FM synthesis is used on the OPL4 board, 44 just might sound more impressive.

We don't know yet, of course, because no manufacturer has released a product that fully uses the OPL4, and, similarly, few boards have been released that use the full capabilities of the Aria set.

Source Material

To shed light on the chipset rivalry, we talked to representatives from each of the companies. Yamaha's Bob Starr told us that the main strength of the OPL4 is that it allows the best of FM synthesis and wavetable lookup. "Boards using the OPL4 will be less expensive than wavetable boards from other manufacturers," he says, further explaining that backward compatibility with the OPL3 is essential. "Ninety-five percent of the sound-board market is OPL3-based, and companies such as NEC, DEC, Tandy, Apricot, and Amstrad are building OPL3 chips onto their motherboards. Furthermore, eight manufacturers are introducing OPL4 boards at Fall Comdex, and that's just for starters."



Because of the ubiquity of the OPL line, Yamaha is confident that the OPL4 will be a best-seller. Not disagreeing with this, but raising the issue of performance excellence, is Sierra Semiconductor's Steve Fischer. "The OPL3 has 4-operator FM synthesis," he explains, "but because of the way it's implemented, it's difficult to produce music for the OPL3. As a result, most games are designed around the OPL2. The reason," he continues, "is that *polyphony*, or the number of voices playing at the same time, is diluted because the chip can only do so much at once."

Fischer notes that "there's a confusion between polyphony, operators, and voices. Polyphony is not only how many notes you can play at the same time — it's also a function of what kinds of notes you play when it comes down to implementation on a sound card. OPL3 can handle 22 operators or voices, but how many play at once actually depends on the mix of note types. If one-third of the operators are percussion, you might get a 12 or 13 voice polyphony, but as you throw in FM operators, polyphony can drop off."

The Aria chipset, Fischer explains, "can handle thirty-two operators. Most melodic notes are two-operator, but the forty-seven percussion instruments found in General MIDI are only one operator. Therefore Aria can actually play twenty or so notes at the same time, and in fact Aria will steal operators by looking to find the oldest note (the one playing the longest) and take an unneeded operator. Therefore, the number of simultaneous notes can be higher than 20."

The Aria set supports OPL2 synthesis, but it also includes a separate Texas Instrument Digital Signal Processor (DSP). DSPs are essential for advanced sound, as they relieve the demands on the computer's processing power.

According to Jeff Klinedinst of Turtle Beach Systems, using DSPs and other components is essential

if sound-card manufacturers are to be taken seriously. All Turtle Beach sound cards (which are now all named for beaches) use specific DSPs and other high-end, detailed sound capabilities. "The problem with all specs related to audio," Klinedinst says, "is that there are no standards, and anyone can advertise practically what they want to."

"We come from professional audio," he explains. "We use DSPs, while most of the others only say they do. We're still the only board to offer true CD quality sound — if you advertise that you have CD quality, you'd better

have a nice quiet recording environment, and you can't do that with power amps and CD-ROM interfaces built onto the board. And in professional audio, if you claim certain signal-to-noise ratios, you'd

better be able to back them up. The other sound card manufacturers don't."

The Monterey board, says Klinedinst, uses a proprietary chipset. You have reverb and echoes to add to the samples, and you can program up to four megabytes of sound by accessing onboard RAM through software. Klinedinst insists that Turtle Beach's boards are the best on the market — and few would disagree — and that his company will always have the best sound card because they're sound professionals, not just packagers and marketers. "We've been doing professional IBM sound for eight years," he explains, "and we have a CD mastering system that's handled projects like Steely Dan's Greatest Hits collection." This expertise, of course, comes at a price: Turtle Beach's boards are at the highest end of the price scale.

Buying a sound card isn't just a matter of picking any one off the shelf. There's an increasing difference between boards, and you'll be much a happier user if you know what you're getting.

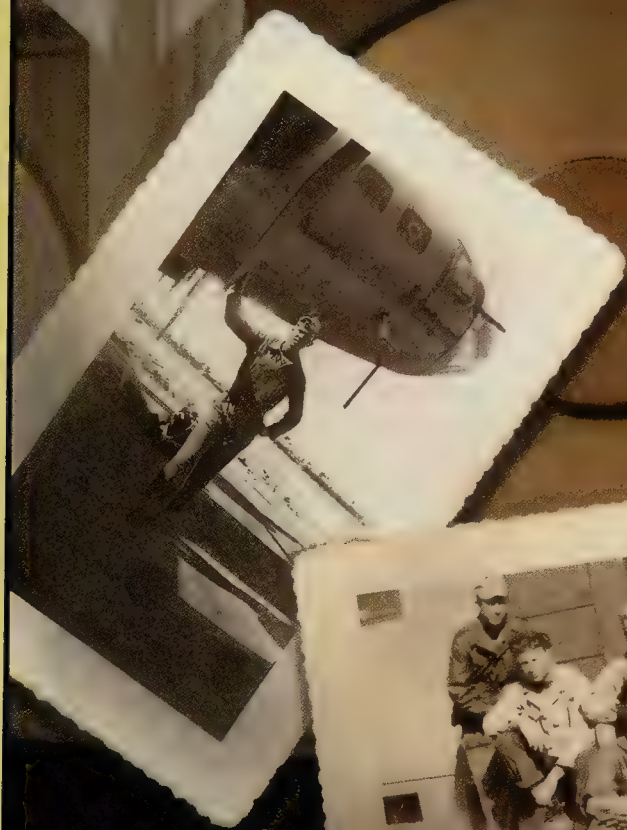
The scene has suddenly shifted with the introduction of the OPL4, which combines FM synthesis and wavetable lookup on the same chip.



Hands On

Our Summer of '99 Vacation

Grandpa's WWII Photos



K

odak

practically invented modern photography. Now, with Photo CD technology, Kodak is at the forefront of the turn-of-the-century transition to an all-digital landscape. With Kodak's Photo CD you take pictures as usual with your 35mm camera, get them developed, and then receive prints and a gold CD-ROM containing high-quality scanned images. Kodak believes that Photo CD will become the slide projector of the 90s.

Already a hit with the graphics arts industry, Photo CD is becoming popular with computer enthusiasts in the home. Users can view their pictures with a dedicated Photo CD player, a CD-I machine, or, in most cases, a CD-ROM-based computer system. If your CD-ROM drive is XA compatible, and you have accessory software like Kodak's *Photo CD Access*, you can view these pictures on your computer screen and use them like clip art.

If you're planning to jump into Photo CD for the first time, be sure your CD-ROM drive can read the slightly upgraded format required by Photo CD. While most advertisements for CD-ROM drives tout "Photo CD" as a feature, buyers should beware. What you should look for before you purchase a drive is

Getting Started with Kodak Photo CD

Part 1: From Silver to Silicon

support for XA (eXtended Architecture). (For a detailed examination of the XA format, see "The Evolving World of CD Formats" in the Fall issue.)

Why Waste 500 Megabytes?

After you've had your first 24-exposure roll of film put onto disc, you may wonder what happens to all that wasted disc space. After all, a Photo CD can store up to 118 photos. Kodak lets you add new sets of pictures to the same disc, until it fills up — the CD-ROM format that allows this is known as *multisession*.

A CD-ROM doesn't lose

its writeable qualities just because it has been partially used. The new photos are stored in a separate session with its own file catalog, however, since the directory for the first session can't be modified. The next session involves duplicating large amounts of disc space that can't simply be altered in the first session, so each new session gobbles up more disc space (beyond that used by the new photos).

While many images can be stored in a single session (even from multiple rolls of film), each new session needs 18 megabytes of overhead (equivalent to four photos) — too many sessions will reduce the number of photos you can store overall.

A visual revolution is here —
and it's at your fingertips.

Multisession discs may be useless to you, unless your CD-ROM drive specifically supports multisession Photo CD. Far too many drives that tout Photo CD capability can only read the

software was apparently written in pre-Photo CD history, since it wouldn't allow my Texel drive to process Photo CD. Substituting Corel SCSI software made all the difference in



The jewelbox "album cover" shows all your snapshots in miniature.

first session on a multisession disc — a situation that borders on misleading advertising. These drives were designed before Photo CD, so they're capable of recognizing only the first directory. (Some of these drives can be upgraded — contact your dealer or manufacturer.) If you have an older drive that doesn't read the multisession format, you can save up all your film rolls, slides, and negatives and record them all in one whopping single session.

If your drive is Photo CD capable but still won't read Photo CD discs, the problem may be with your CD-ROM driver, especially if you're using a general purpose SCSI interface. My Adaptec interface

the world, both in reading Photo CD and in drive efficiency.

Shooting Photo CD

You can have your rolls developed and returned to you with or without *proofs* (the trade name for glossy photographs). Even if you don't have prints made, the CD jewelbox includes a "contact" sheet of tiny photos (see the accompanying figure). If you want to make any color adjustments, you may need the original photo, since your monitor may not reproduce accurate color. If you provide negatives, you can select which frames to include.

However, I found that except for professional applications, you're better off having

your photos developed conventionally (even at the One Hour PhotoMart), then taking your negatives to your local Photo CD developer. You can also provide slides, mounted or unmounted.

Don't bother bringing flat photos or artwork. Ironically, the standard Kodak workstation can't yet scan photos onto Photo CD. Nor can they transfer graphics files, such as TIFFs, onto Photo CD. Kodak is working on a picture scanner, apparently having scrapped plans to use one provided by Polaroid.

It's not easy to find a local Photo CD developer, except in large metropolitan areas, but you can call 1-800-CD-KODAK to locate the one nearest you. Most camera shops can mail your film, negatives, and slides to a developer, usually Kodalux. Turn-around time can be as much as two weeks, although you can usually get rush service if you're willing to pay. Standard cost for a 24-exposure roll developed onto Photo CD (without rush) is about \$20.

What's Inside

Photo CD conforms to international CD-ROM specifications, so it can be read as easily on a Macintosh as on a PC running Windows. Each Photo CD image appears to be a separate file (PCD), but it's really more like an archive of subfiles. Each PCD file contains scans of the photo at various resolutions. The BASE image — 512 scan lines high by 768 pixels wide — is ideal for viewing full-screen on television (but is a bit too tall to fit on a 640 x 480 plain VGA or Mac Classic monitor). Also available are sizes successively quartered (BASE/4 or BASE/16) or quadrupled (4 BASE and 16 BASE). The latter is a whopping 2048 x 3072.

Each image is stored in what's known as 24-bit color (this format uses up to 16.8 million colors). So, for best viewing results, you'll need a 24-bit video card. But since any single image contains only a few thousand colors, you can also use a 65,000-color video card. Also, most pictures look very good at 256 colors, but you'll be disappointed if your video card is limited to 16 colors.

...except for professional applications, you're better off having your photos developed conventionally, then taking your negatives to your local Photo CD developer.

Why all these sizes? And what size should you use? The smallest sizes require the least amount of memory, and will therefore be fastest and easiest to display and manipulate. They also display more quickly, since it takes less time to read and decode them from CD.

In fact, Kodak developed a special kind of Photo CD called Portfolio that contains up to 800 BASE-size images, ideal for

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Available now at your local CD-ROM dealer or call 301-986-0444, ext. 5880 for more information.



Product Information Number 167

multimedia. (For more on Portfolio, see "New Frontiers" in our premiere issue.) The new Pro Photo CD contains image sizes up to 4000 x 6000 pixels, for film sizes up to 4" x 5".

If you're going to publish your photos at actual size in a color newspaper or magazine, 4 BASE will work fine. Smaller photos will reproduce quite nicely with just the BASE image, as long as you preserve the 24-bit color range (but some paint programs convert 24-bit art to 8-bit if your display driver allows only 256 colors). You only need 16 BASE for larger print sizes in high-quality printing, such as a glossy four-color print job. The 16- BASE format is used to reproduce photographs from a Photo CD, and there's no discernible difference between the reconstructed photograph and the one produced from the negative.

That's one great advantage of Photo CD, having all these resolutions at your fingertips. You can use a low-resolution image to place your photos in a DTP program like Aldus' *Page-Maker*, so you can quickly move, size, and crop them; then substitute the high-resolution pictures when you're ready to print or produce color separations.

If you choose to edit or retouch the photos, the size you choose can make a huge

difference. Most paint programs, such as *Adobe PhotoShop*, require an image to reside entirely in RAM for fast access. (In fact, *PhotoShop* can require up to three copies in RAM.) A BASE image in memory requires 512 lines x 768 pixels x 2 bytes per pixel for a total of 786,432 bytes. Most computers can't even fit one copy of the largest 16-BASE image into RAM. That would require 12 megabytes. In fact, even a Photo CD would fill up quickly if image compression weren't used. Professional Mac and Windows artists typically have between 32MB and 256MB of RAM installed in their computers.

Don't worry if your computer has only four or eight megabytes of RAM, or just 256 colors — there's still plenty you can do with BASE-size images, from merely displaying them to changing the colors, retouching, and even animating, using a variety of software tools. Next issue, we'll demonstrate these techniques with programs like *Adobe PhotoShop*, Corel's *PhotoPaint*, Zsoft's *Photo-Finish*, MicroGrafx' *Photo Magic*, and more. We'll also clue you in on some terrific shareware tools for Photo CD. In the meantime, there's a blank Photo CD somewhere out there with your name on it, so get your camera, load some film, and start shooting.

When CD-ROM Is Really CD-WORM

A single Photo CD disc can contain up to 100 images recorded in one session. But how is recording possible, since we all know that CD ROM means Compact Disc *Read Only Memory*? Mass-produced CD-ROM discs are pressed (embossed) from a CD-ROM master, molding themselves to the pattern of smooth and pitted spaces along the spiraling groove on the disc's surface. As you're aware, the smooth areas are highly reflective due to the aluminum coating, whereas the pits scatter the laser light and appear dark. That's how the digital format encodes its zeros and ones.

Kodak needed a writeable CD format, even if it meant that the disc could only be written to once. With a powerful laser, a CD writer could burn pits into the metal layer within the disk, similar to the method used to create CD masters. But that would be prohibitively expensive (and potentially dangerous).

The solution was to paint the gold layer of the disc with a thin film of photosensitive dye. The dye is dark enough to be read as a "pit" by your CD-ROM drive. To write to the disc, the laser only has to be strong enough to bleach the dye in selected areas, revealing the shiny gold, to create a pattern of either reflective or dark spots ("bits") on the disc. In time, this CD WORM (write once, read many) technology will be inexpensive enough for the desktop, with applications beyond Photo CD, but right now, Photo CD workstations (equipped with Sun minicomputers) start at around \$100,000.

Photo CD Resources

Adobe Systems 1585 Charleston Rd., P.O. Box 7900, Mountain View, CA 94039 (415) 961-4400
Aldus 411 First Ave., South Seattle, WA 98104 (206) 622-5500
Corel 1600 Carling Ave., Ottawa, Ontario CAN K1Z8R7 (613) 728-8200

Eastman Kodak Company 343 State St., Rochester, NY 14650 (800) 242-2424
Micrografx 1303 Arapaho Rd., Richardson, TX 75081 (214) 234-1769
Zsoft 450 Franklin Rd., Marietta, GA 30067 (404) 428-0008



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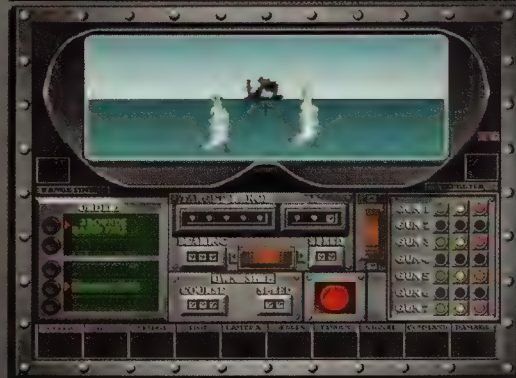
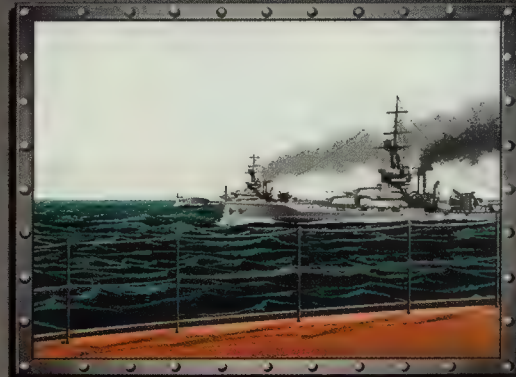
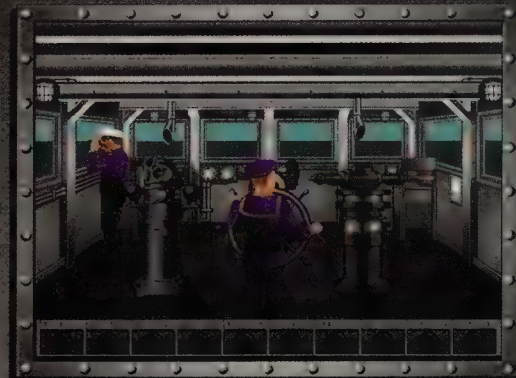
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The Writer's Workshop

Writers need information, and CD-ROMs supply it. Some discs, in fact, contain over 600 megabytes worth, which means that one CD-ROM can contain the text and graphic material of several hundred average-length books. But even though having access to all this knowledge is gratifying, and maybe even a little awe-inspiring, the most important question you face as a writer is how to make the best use of it.

Researching an article, essay, or paper takes time: hours, days, often weeks. What a good CD-ROM is able to do, even at this early stage in the medium's development, is to cut that time dramatically.

Exploiting your CD-ROM drive's fullest capabilities means setting up a writer's workbench and reference library as exclusively on CD-ROM as possible. You'll want to consider CD-ROM-based applications, which usually offer a special

Researching and Writing with CD-ROMs

Neil Randall and David A. Wade

installation option that keeps most of the program on the CD, rather than on your hard drive. The downside is a loss of speed for some functions (those files which must be read from the CD-ROM), and the need to keep the CD-ROM itself close at hand. But using 5 megabytes rather than 15 can make the sacrifice more than worthwhile.

First Things First

As a writer, you first need a good word processor. To date, only one is available

on CD-ROM for PC users: *Microsoft Word for Windows* (version 2.0c). You can buy *WinWord*, as it's often called, in two different CD-ROM formats. The less expensive of the two, *Microsoft Word for Windows and Bookshelf*, gives you a solid word processor and a useful reference library, while the more expensive disc, *Microsoft Office for Windows*, includes not only *Word for Windows*, but also *Excel 4.0*, *PowerPoint 3.0*, and *Access 1.1*.

If you're satisfied with your current word processor, there's no reason to switch; in fact, doing so may be counter-productive. However, if you've just moved into the Windows and CD-ROM world, either of these two products is well worth considering.

The second most important piece of software is a good caching program. DOS and Windows both ship with *SmartDrive*, a very capable hard-disk cache. But *SmartDrive* isn't a CD-ROM cache,

something crucial for acceptable multimedia speed. A large, well-managed cache will keep as much information on tap as possible, thus greatly reducing the access time. Powerful caching programs are available, and a full report can be found elsewhere in this issue (see "Speedy CDs: 4 Caches That Optimize your CD-ROM Drive").

Before you begin building your workbench, though, here's another consideration. A CD-ROM functions much like an ultra-high density floppy disk, and this means changing discs whenever you want to use a different program. If you're one of those people who simply shoves everything onto the hard drive for convenience, then you'll probably find shuffling CD-ROMs quite aggravating. If your system uses caddies, you can lower your frustration level by keeping several of these cases on hand, with each of your most-used discs loaded in its own caddy.

Your Assignment...

It's likely that on more than one occasion, while looking at a CD-ROM title, you found yourself exclaiming, "Wow, I almost wouldn't mind being back in school with all the incredible material that's now available!" We certainly have, and...well, the feeling hasn't passed. So let's suppose that's just where we all find ourselves: back in the classroom. And, since the 30th anniversary of Kennedy's assassination is at hand, the assignment is to write a short essay on the events in Dallas in November, 1963.

Essay writing, often used as the model for many kinds of expository texts, is usually divided into three, sometimes overlapping, phases: (1) pre-writing; (2) drafting; (3) revision and final formatting. The latter two stages are what most people think of as actually writing, but these stages depend entirely on the

breadth and depth of the information you've gathered in the first stage. This article deals with that first stage only. Note that we are not presenting a model for a comprehensive research plan, but rather a sequence of selected examples, each chosen to represent a step in the research process. Along the way, we'll illustrate some specific tips and techniques for using your CD-ROM resources.

Your assigned topic, then, is Kennedy's assassination. But precisely what aspect of that terrible event are you going to write about? Do you write about the days leading up to it? The actual moment when the shots were fired? Or the hectic hours which followed? Or maybe you're more interested in the Warren Commission's report and the controversy it triggered. The first step in planning whatever you're going to write is to narrow the focus to a manageable topic.

Start by (re)familiarizing yourself with the subject by using an introductory overview. *The 20th Century Video Almanac*, from The Software Toolworks, offers a 15-screen summary of the assassination, along with some brief film footage. National Geographic's *The Presidents: It All Started with George* is also useful, although with less material about the assassination than the *Video Almanac*. The problem here is that neither disc offers a means of copying or saving text output. *The Presidents* does let you print out the biographical essay, but this isn't much help, unless you're willing to transcribe it back into your word processor. Still, both these products serve the purpose of getting background on the subject.

Into the Library

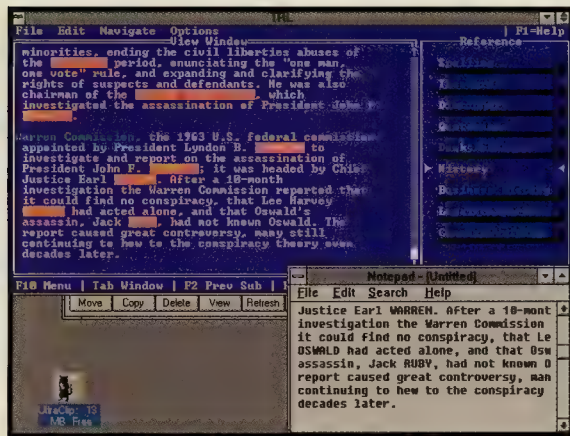
Once past the familiarization stage, it's time to start gathering material you can use in your paper. Two well-known CD-ROM reference collections, The Software

Toolworks' *Toolworks Reference Library* and *Microsoft Bookshelf*, provide a way to copy information into your word processor.

The *Toolworks Reference Library* is a DOS-based collection of standard works. A search of the History category turns up several articles dealing with JFK, including separate pieces on the Warren Commission, Jack Ruby, and Lee Harvey Oswald. Together, with the short but useful biography of JFK, these articles may prove worthwhile. As you move through the *Toolworks Library*, the program will accumulate the "finds" you select in its scrolling View Window, and this newly compounded file can be saved, whole or in marked parts, as a text file for importing into your word processor.

Microsoft Bookshelf, a Windows-based reference collection, contains enough additional material on the assassination to further complement your outline. To find the various entries quickly, though, it's helpful to know how to use operators, or filters, to narrow the scope of your search. Operators are a short list of connectives like *and*, *or*, *not*, and even asterisks and parentheses, which limit the range of what the program looks up for you. In *Bookshelf*, the Hint button in the Find box prompts you with a list of available operators. If you instruct the program to simply find *Kennedy*, it comes back with an index of 238 topics, including references to film actor Arthur Kennedy and Prime Minister Kennedy of Saint Kitts-Nevis. However, if you limit the search to *President AND Kennedy*, it finds 58 topics — but still, these cover his whole life and political career. What you need to set in the Find box is *Kennedy NEAR assassination* — NEAR scores a hit whenever the two items occur within 50 words of each other — and now you're narrowed down to only nine topics (two quotes, six encyclopedia articles, and an

entry in the World Almanac). You decide to copy over Kennedy's biography, an item on the Warren Commission, and an almanac summary of the key events of 1963.



Material from the DOS-based Software Toolworks Reference Library is ported, via an enhanced clipboard, to Notepad.

Unfortunately, you can't gather this material all at once, as you can in the *Toolworks Library*, for copying to your word processor. Instead, you must select each chunk of text, highlight the desired lines or paragraphs, copy them to Windows' Clipboard, then switch to your word processor and paste it. Too few CD-ROMs provide even a simple mechanism for collecting researched items together and then copying them directly into your word processor. Most settle for the meager facilities of Windows' Clipboard. This means shuttling back and forth

between the disc you're searching and the word processor on which you're assembling the material you've found, emptying out

the clipboard's holding tank each time you use it.

What you need is an extensible clipboard on which you can stash half-a-dozen or more snippets of saved information.

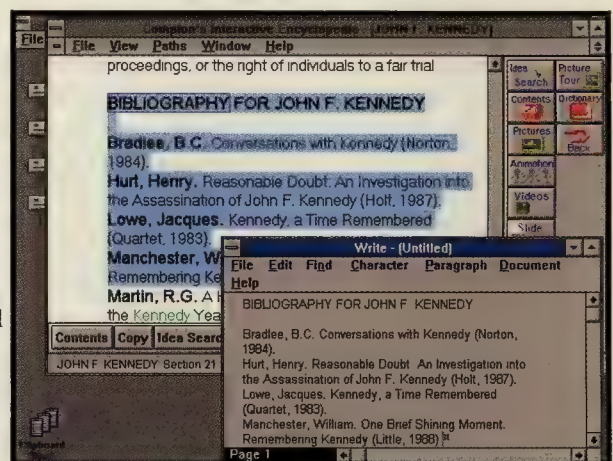
Fortunately, there are a few such clipboard extenders now available as shareware. Watch for names like Clips and Clip

Box on BBS file lists; two of the most widely distributed programs are ClipStac and UltraClip, both of which are vastly superior to Clipboard itself, and both of which handle text, graphics, or almost anything else you choose to toss their way. Each product can be recommended as a highly useful addition to your utilities toolkit — but if you decide to use one on a

regular basis, be sure to register it. Fair is fair, after all.

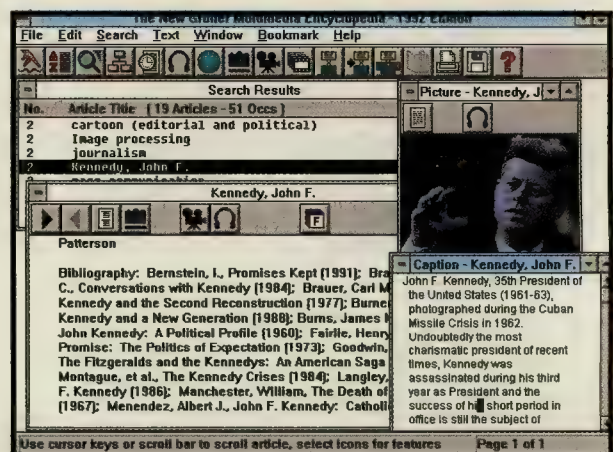
Digging Deeper

Closing in on the chosen topic, you now need to check out the more detailed descriptions and longer explanations found on the encyclopedia CD-ROMs. *Compton's Interactive Encyclopedia* helps out the orderly researcher with a "virtual workspace," which allows you to



Bibliographic references are pasted from Compton's into Windows' Write for subsequent research.

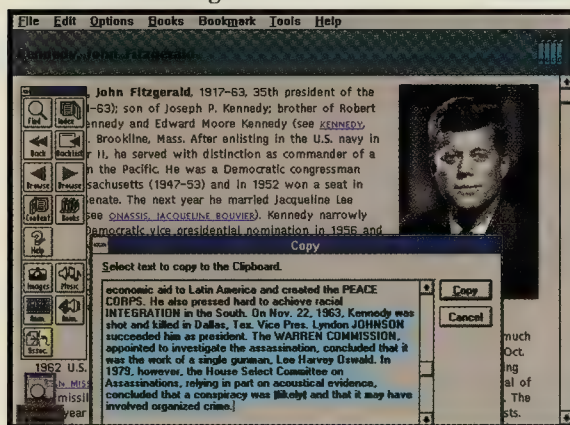
enlarge your desktop beyond the confines of the single screen in front of you, somewhat like *PC Tools for Windows* and *Dashboard*. It's as if you have your



These screens from Grolier's show the results of the search, the bibliography, and the accompanying photograph with caption.

material spread out over a large tabletop with several monitors viewing the whole area. You can save this setup, with all the bits and pieces you've found, and return to it in a future session.

The Idea Search mechanism is crude, allowing no operators in the search request. Type in a word or phrase, and *Compton's* performs a brute-force search across all of its material, leaving you to sort out the mass of references it finds. The Topic Search feature is better in several respects, but also more time-



Biographical material copied from Microsoft Bookshelf can be stored in a clipboard extender for later retrieval.

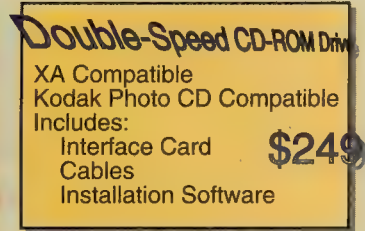
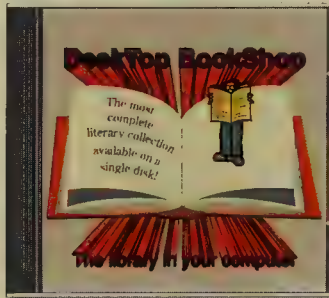
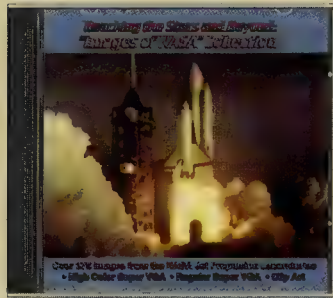
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About Cows	30	Encyclopedia		Magazine Rack	30	Roger Ebert's		USA Wars: Desert Storm	30
Adventures In Heaven	15	Multi-Media - Ver. 6	50	Mavis Bacon Typing M/M	25	Movie Companion	30	USA Wars: Korea	30
Advn. of Willy Beamish	20	Encyclopedia Of Sound	15	Mayo Clinic	25	Seals Of The U.S. Gov.	30	USA Wars: Vietnam	30
Aircraft Encyclopedia, The	30	European Monarchs	30	Middle East Diary	30	Secret Weapons Of The		USA Wars: World War II	30
American Bus. Phone Book	25	Family Doctor	25	Midi Music Shop	25	Luftwaffe	30	VGA Spectrum	10
Anecdotes Vol 1	15	Font Master Two	20	Mixed-Up Mother Goose	20	Selectware	10	VGA Spectrum 2	20
Anecdotes Vol 2	15	Font Master	10	Monkey Island	30	Shakespeare	20	Visions Of Saturn	30
Anecdotes Vol 3	15	Fonts For The Prof.	25	Mother Of All Clip Art	15	Shareware Gold II, V2#1	30	Wave Pool, The	20
Animals	25	Fresh Arte	30	MPC Wizard	20	Shareware Heaven	15	Where In The World is	
Arthur's Teacher Trouble	30	Game Arena	10	MSDOS Arch. (Simtel 20)	20	Shareware Online	25	Carmen San Diego?	30
Audubon's Birds	25	Game Master	20	National Geog. Mammals	30	Shareware Online Vol#2	25	Wild Places	20
Audubon's Mammals	25	Game Pack II	30	National Parks	25	Sherlock Holmes	30	Windowware	15
BarneyBear GoesTo School	20	Garbo MSDOS/Mac	20	North American FAX Book	30	So Much Screenware	20	Windows Master	20
BarneyBear GoesTo Space	20	Gifs Galore	20	North American Indians	30	So Much Shareware 2	15	Wing Comm./Ultima VI	25
Battle Chess	20	Giga Games	20	Officer's Bookcase	30	So Much Shareware 3	25	World Atlas M/M	20
Beauty And The Beast	20	Great Cities Volume 1	30	Original Shareware	10	Software Vault Vol 2	15	World Of Flight	35
Bible Library	30	Great Cities Volume 2	30	OS/2 Archives	20	Sound Sensations	15	World Of Trains	35
Bibles & Religion	15	Ham Radio	15	Our Solar System	15	Source CD-ROM	20	World Traveler	15
Business Assistant	10	Hamcall	40	PC SIG Version 11	20	Space Adventure	30	World View	20
Business Master	20	Holy Bible, The	20	PC SIG Version 12	25	Space Quest IV	20	20th Century Video	
C Users Group Library	30	Hospitality Index	30	PC SIG World Of Games	15	Space Series - Apollo	30	Almanac	25
California Collection	10	It's A Wonderful Life	20	PC-SIG Home &		Stellar 7	20	Best Of Microprose	25
Cameron's Fine Art Cat.	40	Images of NASA	30	Business Collection	10	Straight From Heaven	15	Chaos Fractals & Magic	30
Career Opportunities	30	Interactive Story Time 1	20	PC-SIG World Of Windows	15	Street Atlas USA	95	Dinosaurs	30
Chessmaster M/M	20	Interactive Story Time 2	20	Pentaminoes	28	Tao Of Cow	30	Fractools	30
CIA World Fact Book	25	International Bus. &		Peter And The Wolf	20	Technotools	15	Fractures	30
CIA World Fact Book M/M	30	Economic Atlas	20	Pharmacist Guide To Drugs	30	Tempra Photo CD Access	20	Gameware Collection	25
CICA Windows Disk	20	J Schumacher's New		Pixel Garden	30	Terrorist Group Profiles	30	Gardening	15
Clipart Goliath	15	Prague Cookbook	30	Plant Doctor	30	Timetable Of Hist.Science	25	Guinness Records 1993	30
Clipart Heaven	15	Jets & Props	30	Playing W/Lang. French	35	Timetable Of History		Legal Guide	15
Coates Art Review: Impres.	30	Jokes & Pranks	10	Playing W/Lang. German	35	Business and Politics	25	Mad Dog Macree	40
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Composer Quest	35	KGB World Fact Book	30	Playing W/Lang. Japanese	35	Arts and Entertainment	25	Newsweek Interactive	25
Consumer Information Disc	30	Kings Quest V	20	Playing W/Lang. Spanish	35	Too Many Typefonts	12	Pier 3	30
Cookbook Heaven	15	Klotski	25	Programmer's ROM	30	US Atlas M/M	20	Precision Mapping	79
Danger, Hot Stuff!	15	Kodak Photo CD Access	20	Project Gutenberg	20	US Atlas With Automap	25	Publishers Paradise	25
Deathstar Arcade Battles	15	Languages Of The World	40	Publique Arte	30	US Civics	30	Reel Clips	30
Desktop Bookshop	15	Learning Adventure	10	Publish-It!	25	US History	35	Sleeping Beauty	20
Dictionaries & Language	15	Learning Heaven	15	Q & A	50	US Presidents	30	Soundware Collection	25
Dinosaur Adventure	30	Libris Britannia	40	QRZ Ham Radio	20	US/World Atlas	22	Space Shuttle	25
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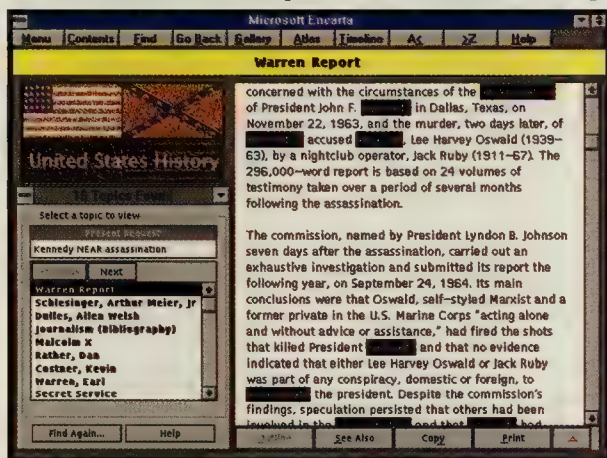


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consuming. Searches reveal a fair bit of helpful JFK material, including bibliographic notes, but the Copy command is another rather clumsy feature: You must highlight the desired text on the screen, then click the Copy button to copy it to Clipboard. To be fair, you can summon up Windows' Write (or word processor of your choice if you edit the CIE.INI file) from the Edit menu to make an instant paste, but an enhancement (ClipStac, for example) is extremely useful when using this disc. Another annoyance in *Compton's* is the addition of a carriage return at the end of each line.

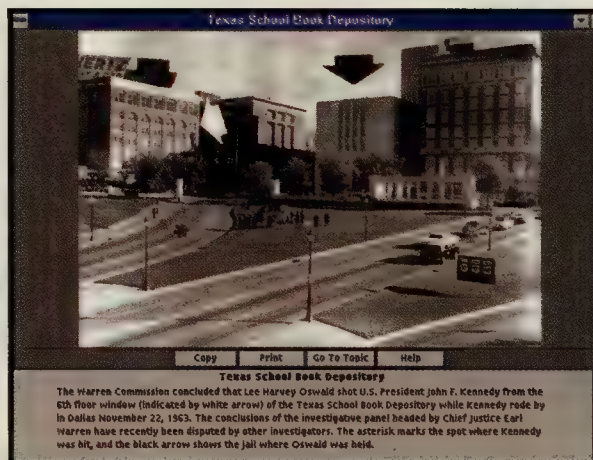
The copy feature in *The New Grolier Multimedia Encyclopedia* offers the same limitations as those in *Compton's*, with



Microsoft Encarta highlights the results of a filtered search using the near operator.

two exceptions. First, carriage returns aren't added at the end of each line, and, second, the Save feature lets you save selected text as an ASCII file for importing into your word processor. *Grolier's* search facility is strong, however, giving you the *and* and *not* operators, as well as an elaborate system of searching for words near other words. Searching *Kennedy* and *assassination* within 10 words of each other reveals 19 relevant articles, all of which show the requested words clearly.

Microsoft Encarta has the most sophisticated front end of all major



Pictures and sounds can be copied from Encarta.

reference discs to date. Its search mechanism allows a variety of operators, all accessible through the well-designed Find dialog box. In addition, *Encarta*

contains an excellent feature called Research Wizard, which helps you tailor your search precisely. For copying text, *Encarta* uses a Windows word processor — Write by default, but with the option of easily installing your own application — as an immediately accessible “clipboard.”

The Final Assault

In the concluding phase of your research, you need to

peruse more

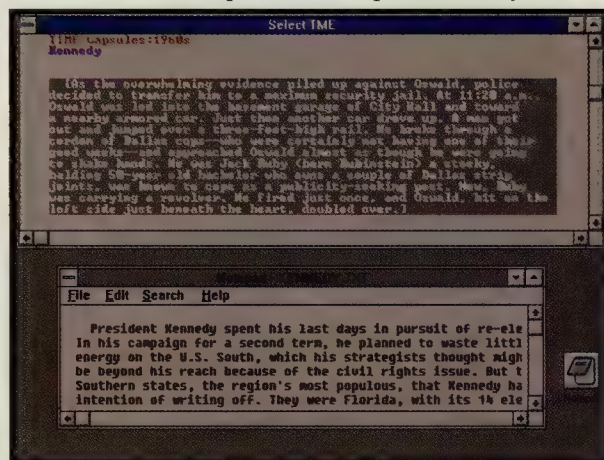
detailed reports, contemporary accounts, and assessments. If you use a Windows-based word processor, one difficulty you're bound to run into is that many of the longer text articles you need to access are found on DOS-based discs.

For example, there's a good report on the assassination on CPI's *Time Almanac* (1992 Edition). To capture this material in a Windows

word processor, start up the CD-ROM from within Windows (by double-clicking on the appropriate .EXE file from File Manager). With your DOS CD-ROM displayed in full-screen mode (usually the default), find the passage you want to copy, and then press Alt-Enter to shrink the piece into its own DOS window. Go to the Control menu in the top left

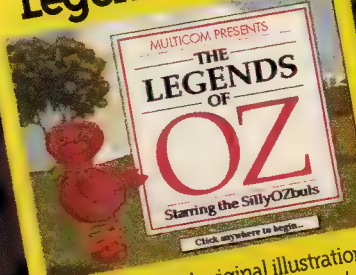
corner of the window, select Edit, and choose Mark. Use the mouse to mark off the block you want, then press Enter, and the text will be copied to Clipboard. Since this all happens in graphics mode, you may not be able to scroll down the CD-ROM screen; instead you'll have to copy over longer pieces one screenful at a time. Each screen you copy must be immediately transferred into your word processor, unless you're taking advantage of one of the clipboard extenders we've mentioned.

Keep in mind, too, that most book-based information simply hasn't been transferred yet to CD-ROM. Relying on only one CD-ROM title, however comprehensive, to provide *all* of your



Useful text from Time Almanac, a DOS-based CD-ROM, can be copied over into Notepad, using Windows' own copy-and-paste routine.

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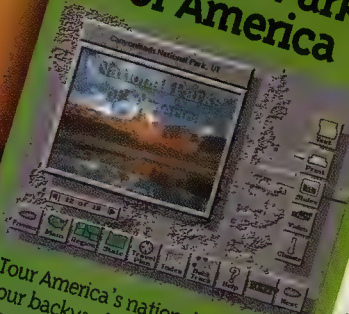
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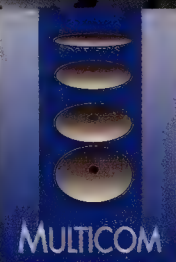
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information is as dangerously limiting as using only one book to research a paper. There's far more material on paper than is currently available on CD-ROMs. The most thorough products, such as *Encarta* and *Compton's*, and especially *Grolier's*, do provide bibliographic references, which point the way to complementary hard-copy sources. These can be copied to Notepad and printed as a book list for you to check out in the library. And don't forget the print encyclopedias: one of our more sobering realizations during the writing of this article was that there's often more to be found in *The Encyclopedia Britannica* or *The World Book Encyclopedia* than on even the best current CD-ROMs.

Organize, Outline, and Output

You've browsed through desktop reference works, encyclopedias, magazine collections, and other sources, and then copied and pasted the material you need. This has been supplemented with further hard-copy research. And all of these facts are now in your word processor. It's time to fit all the pieces of the puzzle into an organized picture. Now it's time for the most dreaded task in any English class: Outlining. All major word processors provide this essential communication tool — *Ami Pro* and *WinWord* have the most powerful outliners, but the one in *Q & A Write for Windows* is probably the quickest and easiest to use. Make up an index of all the data you've collected (a simple one-line summary for each item will suffice), then cut, copy, and paste the appropriate passages to place them in a subordinate position under each caption or entry. Collapse the outline so you're not confused by all the clutter. Then you can click the mouse to rearrange, promote, demote, and renumber the visible headers into what you judge is the most rhetorically effective order. Expand the outline,

and — voila! — all of your painstaking efforts are now displayed in the sequence you want (and, if not, it's easy enough to change).

After a well-deserved break, fire up your word processor again, open a fresh window at the top for drafting your article, and at the bottom place the window displaying the research now sorted and ordered. As you write each paragraph, you can scroll the bottom screen up to reveal precisely the point you need to concentrate on — and any material you want to quote or cite can be copied directly to your work-in-progress.

The system we've just described works whether you're composing a school

essay on the assassination of a president or writing an article about how to use CD-ROMs for research — because that's just how this article was prepared.

CD-ROM technology is still in its infancy, but it's easy to read the early clues: CD-ROMs are here to stay and they will become an increasingly integral part of the writing process. "Give us the tools, and we will finish the job," Churchill told FDR in a 1941 radio broadcast (courtesy of *Bartlett's Familiar Quotations*, included in *Microsoft Bookshelf*). CD-ROMs are giving writers faster and more convenient tools than ever before, but it's still up to you to get on with it and "finish the job."

Caveat Scriptor

The Curse of Serendipity: Many writers enjoy and take advantage of the serendipitous opportunities that occur when leafing through books, especially when browsing along library shelves. Who hasn't, at one time or another, come across some helpful or stimulating information while skimming through the stacks? And it's true that if you don't have to leave the keyboard so often, then the possibility for these fortuitous discoveries is greatly diminished. However, CD-ROMs offer their own delightful and potentially dangerous form of serendipity. Dangerous because the hypertext links and easy search facilities provided on the better-organized discs can seduce the writer into wasting precious working time, following a whimsical trail of buttons and hot-spots through thousands of pages of information. Self-discipline is crucial for all writers, and never more so than when using CD-ROM resources.

Copy, Paste, and Copyright: There's an old saying that if you steal text from one book it's plagiarism, but if you appropriate the words from half-a-dozen books, then it's research. The truth is that any words you borrow *verbatim* belong to somebody else and their copyright must be acknowledged. It's easy, and quite tempting, to copy a passage directly from a CD-ROM reference to your own document. Some of the better systems will automatically download the necessary citation along with the text being transferred. Others don't. And in that case, it's your responsibility to include those details which point to the original source for the material you've used. Of course, if you rework the information and write it up in your own words, then such referential footnotes are required only in the most formal of research papers. If you're unsure, it's always better to include a brief note.

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Technology



The Debut of Interactive Journalism

Randy Chase

***Newsweek* is the first to deliver multimedia news on CD-ROM. Here's an inside look at the initial issue and a glance down the road at the news magazine's ambitious plans.**

In the emerging era of digital journalism, a picture's value far exceeds the traditional thousand words.

By definition, multimedia blends visual imagery, audio information, and traditional text sources into an interactive communication vehicle, but it's the picture that is clearly the dominant component.

An effective measure of the impact created by the digital revolution is the speed at which media conglomerates and news publications are racing to establish a share of the growing multimedia market. Early entrants include ABC, AT&T, Time Warner, Viacom, CNN, *USA Today*, and *Time Magazine*.

To date, however, no CD-ROM product has so effec-

tively captured the powerful potential of the new medium as *Newsweek InterActive*, a joint effort of *Newsweek Magazine* and The Software Toolworks. The CD-ROM version of the magazine may well prove to be one of this year's most significant multimedia releases.

"*Newsweek InterActive* marks the beginning of digital journalism," explains Managing Editor Michael Rogers. "We're combining the best aspects of magazine, television, and radio into a new medium that puts our readers in control of the content."

The DOS-based CD-ROM contains the complete text from three months' worth of *Newsweek* issues, plus an additional 200 articles from *The Washington Post*, but it's far more than just a collection of yesterday's news on a disc. *Newsweek InterActive* takes the ambitious step of building the product

around original material skillfully blended into multimedia feature stories or documentaries.

Free-Form Exploring

The premier issue includes two original features developed exclusively for *Newsweek InterActive*. "Unfinished Business: Mending The Earth" is a colorful and thought-provoking examination of global threats to the environment. The second feature, "Bye-Bye Baseball?," explores the changing nature of the national



Newsweek
InterActive

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"The biggest breakthrough was in figuring out a way to mediate between interactivity and passive entertainment," says Managing Editor Michael Rogers.

pastime and the upcoming confrontation between players and owners over the issue of salary structure.

The multi-layered design lets you approach the feature

subjects from a variety of directions. You're free to



The main interface lets you move instantly into any area of the magazine, including its advertisements.

browse through the video and photo libraries, to explore related articles from *The Washington Post*, and to listen to interviews from the four hours of audio drawn from "Newsweek On Air," the radio news show produced by the magazine's publisher.

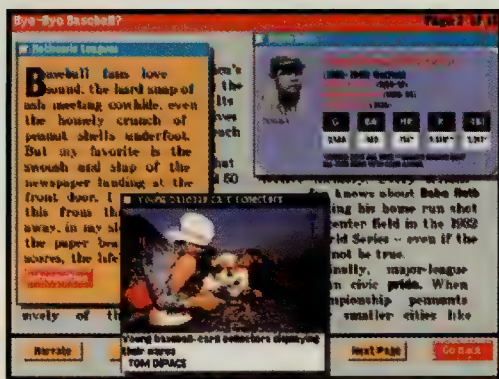
One of the keys to the product's success is the use of continuous narration dramatically illustrated, without interruption, by a changing collage of full-screen SVGA

images. This software technology is described by Michael Duffy, senior vice-president of software development at The Software Toolworks, as being "right out at the edge of the universe in terms of making it run on the vast majority of multimedia machines, which at the low end are 386's."

The video and audio components cover a lot of diverse ground. There's footage of Babe Ruth, an audio clip of Vice President Al Gore's speech at the Rio Summit, and in the "Newsweek On Air" collection, you can listen to an interview with

Willie Nelson, as well as a short sampling of the title song from his current album.

The *Newsweek* Magazine text includes letters from readers and the editor's letter. In this case, however, the editor's page is a video clip of Michael Rogers explaining the



Once in the "explore" mode, you enter an interactive collage of information and images.

future direction of this multimedia publishing venture.

Due to delays in getting the premier issue ready for release, the *Newsweek* magazine section in the first issue features material from the first quarter of '93. The second volume, expected to ship in November, is slated to include magazine content

through the month of June, and the third issue, scheduled for release in February, will contain all magazine material through the end of the year.

Duffy explains that after the third release, the time lag between the last issue of print material and the release of a CD-ROM containing the archives will be only about six weeks.

Advertising is present, but, fortunately, is offered in a tasteful, non-intrusive fashion. The two advertisers of the debut issue — AT&T and Lincoln-Mercury — are represented by menu buttons bearing their names. If you're interested in checking out the ads, simply click the appropriate button and watch a short video presentation.

In the future, advertising revenues will be a key to bringing the cost of the



Newsweek Interactive offers a wide variety of multimedia elements.

product down, according to Rogers, who is also technology editor for *Newsweek* magazine. "Americans aren't used to paying full freight for information," he explains. "The fact is that I don't even know what it would cost us to sell the magazine without ads."

Rogers expects advertising to take on a new look in the multimedia future. "Ads that live in an interactive medium are going to have to either be entertaining or provide a service — because you can't force people to watch them." He says that advertiser interest is high and that a variety of creative approaches are on the table.

Both the *Newsweek* and *Post* material provide full text-search capabilities. And the search routine is reasonably quick — it took only four seconds to discover that there are three articles in the quarterly collection of *Newsweek* which contained both the words "ethics" and "Packwood."

The most glaring weakness in *Newsweek Interactive* is that while all of the magazine's text is included, there are no illustrations in this archival section. Shifting from the stunning visual impact of the documentaries to the drab, text-only screens of the magazine content underscores the need to give the articles a graphic look more closely resembling the magazine.

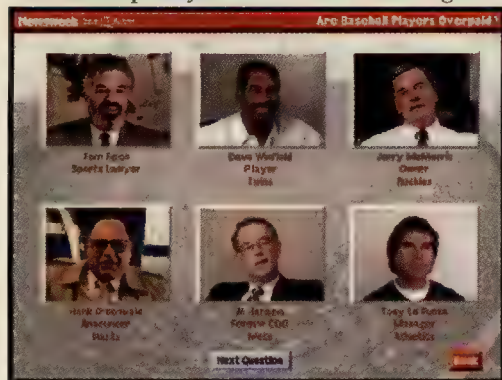
In contrast, the "explore" mode, unlike the bland archive screens, features elegant screens laced with hypertext links that connect to visual images, audio clips, *Post* articles, and a variety of

other multimedia sidebars. Some application of this approach would be welcome in the sterile presentation of the *Newsweek* archival material.

Have It Both Ways

Michael Rogers sees the multilevel interactivity as one of *Newsweek InterActive's* greatest strengths. "The biggest breakthrough was in figuring out a way to mediate between interactivity and passive entertainment," he says.

In passive mode, you're treated to a photojournalistic



A video library of comments by prominent sports personalities becomes an interactive panel discussion.

documentary that literally walks you through a collage of images designed to enhance the information being conveyed by the soundtrack. A simple mouse click, however, transforms the passive viewing experience into a hyperlinked multimedia smorgasbord, allowing you the freedom to wander through the feature, and its supporting materials, in a free-form fashion. It's within this exploration mode that *Newsweek InterActive* truly lives up to its ambitious name.

"All the rules we have

about how many times editors have to see a piece of text before it goes out, all the fact checking, everything that the last sixty years has taught us about print has been applied to this interactive product," says Rogers. Accordingly, it isn't surprising that *Newsweek* controls every aspect of the editorial content because, according to Rogers, "we knew that it had to be done to the *Newsweek* level of quality, in every sense."

One area of improvement that Rogers hopes to see in

future issues is the more effective use of *Newsweek's* voice and attitude. "We bring a certain sensibility to a story that readers have come to identify as our voice. It's an expert voice,

with a slight skepticism to it, and some sense of humor."

Rogers didn't feel that voice was as effectively used as it could have been in the first issue "because we were still trying to make the tools work. The stories that we are finishing now for the November issue better use the tools to tell the story."

While the package utilizes audio better than any other news-related CD-ROM package, the use of video isn't as effective nor as well-integrated into the product

design as that found in other reference products, such as *Compton's Interactive Encyclopedia*.

Rogers conveys an infectious enthusiasm for multimedia as he

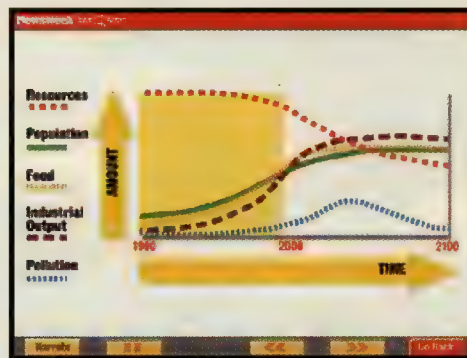
explains the future potential of this evolving media. "At some point in the future, we'd like to deliver the product via cable into the home, but we don't think that's going to happen for some time to come." He envisions *Newsweek InterActive* eventually moving towards a monthly publishing schedule and promises that "whatever it is that *Newsweek InterActive* is in a few years, we hope that it is quite inexpensive."

Individual issues retail for \$49.95 and are in most software outlets. Annual subscriptions (issued quarterly) are priced at \$129.95 and can be purchased directly from *Newsweek* by calling 1-800-634-6850. Currently, the CD-ROM magazine is being offered only in a DOS format.

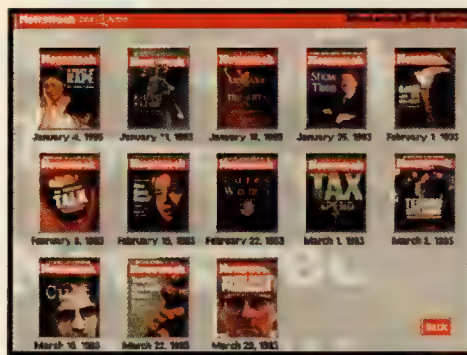
Ed Bernstein of The Software Toolworks notes that a Windows version is in the works. "Almost anyone who has a CD-ROM drive and a computer with SVGA has also upgraded to Windows, so we're certainly hoping to move this product over to Windows sometime next year." While no decision has been made, a Macintosh version is under consideration.

In his editor's message, Rogers explains that

Newsweek doesn't consider this just another way of publishing a news magazine, but that it is "a medium in the making, a work in progress." As such, it marks a dramatic milepost on the information highway.



Charts and graphs add informational power to the special features in each issue.

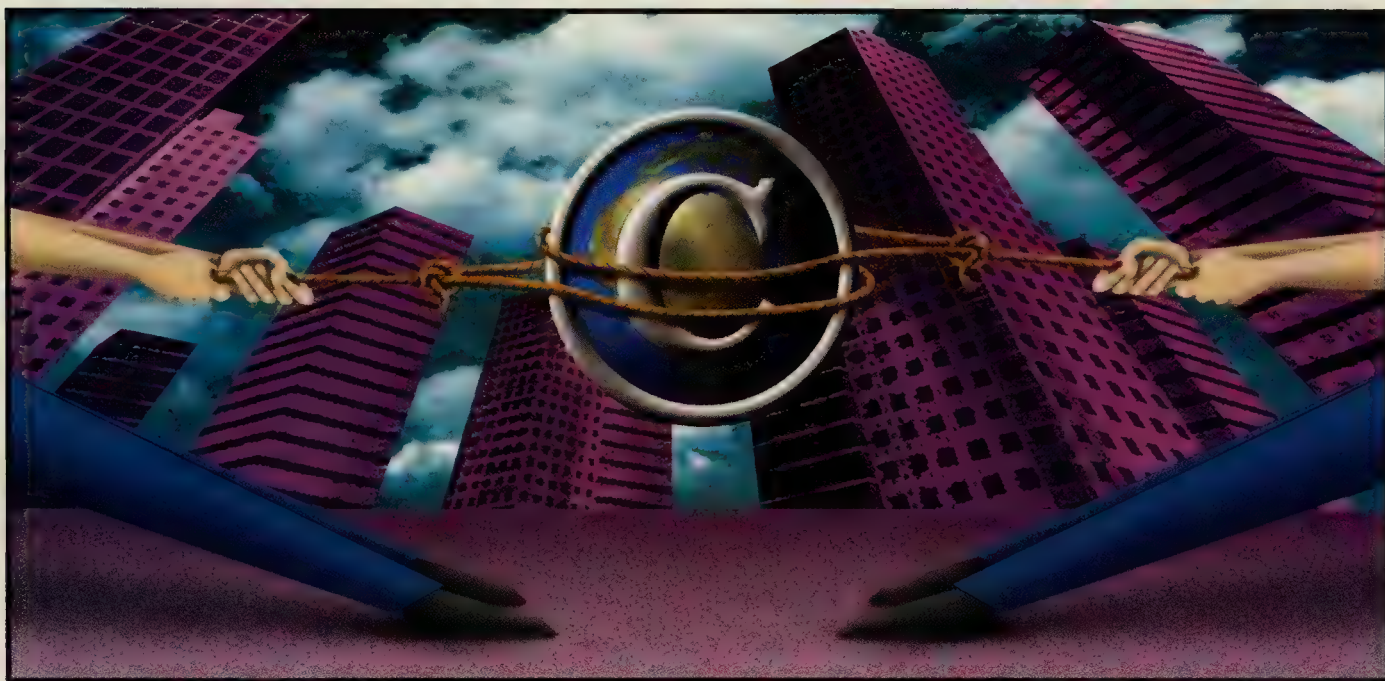


All of the text from back issues of *Newsweek* is available, and a fairly quick search routine is included.

Publisher Info

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Who Owns What?

You're a new multimedia producer with a great idea for a sports CD-ROM called *Nolan Ryan's Greatest Pitches*. As a baseball nut from way back, you've got a video of every Ryan game since the VCR was invented, so the CD-ROM shouldn't be too hard to put together. All you have to do is digitize your videos, add some commentary and music, master your disk, and you're on your way. Every baseball fan will want one, and you'll make millions. Right?

Wrong. According to U.S. law, you can't do that. Nolan Ryan's lawyers would be very upset. So would the legal representatives of every other ballplayer, umpire, and manager in the videos. Then there are the attorneys for the Baseball Players' Association, the team owners, the stadiums, the networks, the announcers, the composers who wrote the music, and even the advertisers whose ads appear on stadium billboards. Ryan and all the

Inside the Battle Zone Of Media Rights: Which Way Is Out?

— Steven Anzovin —

others own legal rights to the material you want to reuse. Publishing without the permission of even *one* of them would be a quick way to the wrong end of a lawsuit.

This is not a hypothetical situation. The dozen or so people interviewed for this article all knew of potentially

outstanding CD-ROMs that died because the producers could not obtain or afford the rights to needed material. One publisher mentioned a CD-ROM that was just three weeks from launch when it was discovered that another company owned the rights to the title, the name of which appeared in nearly every graphic on the disc.

The problem of who owns what is one of the biggest barriers to the development of innovative multimedia. It's also one of the least discussed, for a variety of reasons. There are no standards for multimedia rights, so almost no one wants to reveal what they paid or what they got for them. Ongoing litigation in a number of multimedia rights cases casts a pall over the free flow of information. And the young multimedia industry is naturally close-mouthed about problems involved in reuse. After all, as one developer noted, "We all know that we'll probably have to

work with that producer or performer again tomorrow."

Welcome to the Jungle

"Clearance" is a term long familiar to the film, television, music, and publishing industries. Simply put, it means that nearly all creative or archival works are owned — either copyrighted or trademarked — by somebody who must give permission before the works can be reused or reproduced. Every magazine editor or network executive knows this, but it's a new and troublesome concept to many CD-ROM producers.

Producers pursuing clearances for innovative consumer multimedia projects must make their way through a thicket of

searching out the owners of more obscure material — say, an early picture starring Marlene Dietrich — can be a major project in itself. And, as if there wasn't enough confusion, the actual copyright holders are sometimes unaware that they own the rights.

Getting clearances can take a long time indeed, especially when multimedia producers come to the bargaining table with exorbitant expectations. Case in point: *Microsoft Encarta*. The rights to reproduce the images in this CD-ROM encyclopedia were mainly purchased from the Bettmann Archives in New York, probably the world's best-known picture collection. Bettmann is accustomed to dealing with book and magazine publish-

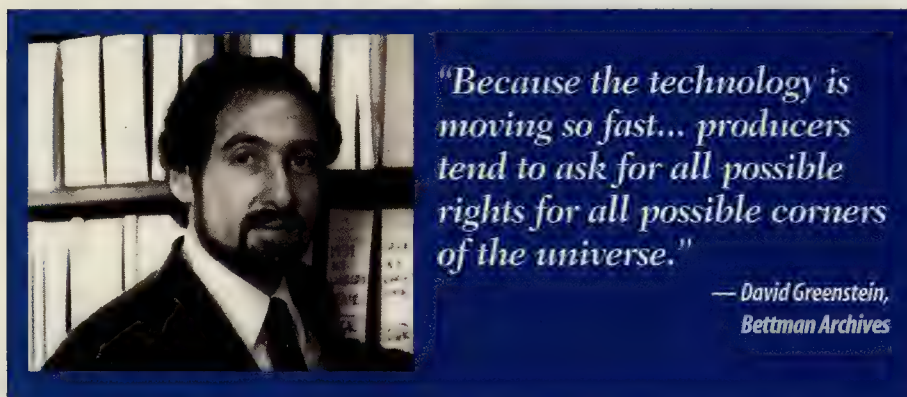
and Microsoft negotiated for five years before finalizing the contract.

Playing Hard to Get

Some multimedia producers claim that it's the rights holders who are holding up the show. Why, for example, hasn't there been a rock video CD-ROM from a major artist, like Aerosmith or U2? Tom McGrew, vice president of marketing development and product planning at Compton's New Media, points to a reluctance in the music industry to get involved with CD-ROM. Compton's is releasing a disc on Count Basie, one of a series on jazz greats, and has a rock video disc under development. But, says McGrew, CD-ROM developers in general have had little success in working with top pop talent.

"The music people are not anxious for multimedia to succeed," McGrew claims. "They fear, and with some justice, that multimedia discs may steal sales from music CDs. After all, you can play music off a CD-ROM with CD quality without even looking at the visuals — just skip the first track. The truth is, none of the big artists or publishers wants to go first and make a big mistake, because that will determine the course of the industry ever after."

Even if clearances can be bought, they may cost more than smaller producers can afford. NFL Films charged Compton's \$1000 per minute for the 33 minutes of football videos in Compton's *Sporting News Multimedia Pro Football Guide*. What saved Compton's from having to pay for clearances from every individual appearing in the clips is that the disc is considered a news product. News publications such as *The Sporting News* are allowed by law to make fair use of copyrighted material and the likenesses of celebrities without obtaining clearances. That's why news-based CD-ROMs, such as *Desert Storm*, *Newsweek Interac-*



copyright and trademark laws, customs, and technicalities. There are no standards for negotiating the rights to photos, videos, movie clips, cartoon characters, celebrity images, literary materials, corporate logos, brand names, or any of the other elements that can go into making a successful consumer multimedia product. Every aspect of each clearance has to be negotiated separately. No one knows how much it's going to cost, or how long it will take, or what rights will finally be obtained.

In many cases, it's not even obvious who owns the rights to a particular work. Everyone in the entertainment business knows that Ted Turner owns the rights to the entire MGM film catalogue, but

ers who know how picture licensing works. But working with Microsoft was a learning experience, according to Bettmann's director, David Greenstein.

Bettmann offered Microsoft an eight-page contract covering primary and derivative rights to pictures for *Encarta*. Microsoft came back with a 40-page contract asking for rights far beyond what Greenstein expected. "Because the technology is moving so fast, and there are so many possible follow-on products that can be derived from multimedia, producers tend to ask for all possible rights for all possible corners of the universe," he says. "We have even considered establishing a price schedule for the various planets of the solar system and beyond." Bettmann

tive, *Time Almanac*, and others have flourished early.

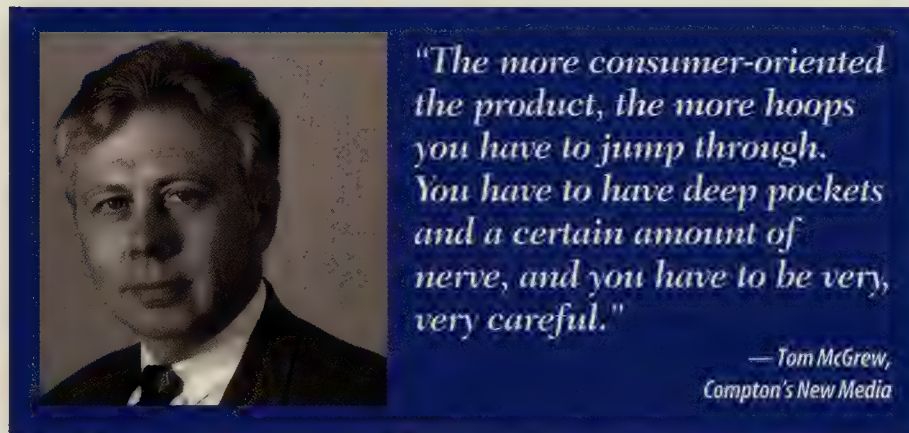
Steering Through

Doug Mealy, president of San Francisco-based Multimedia Public Relations, one of the nation's largest multimedia PR firms, notes that there are several ways for producers to stay out of the clearance

"Right now, if you want to produce CD-ROMs with broad, mass appeal, then you have to face up to the clearance hassle," says McGrew. "The more consumer-oriented the product, the more hoops you have to jump through. You have to have deep pockets and a certain amount of nerve, and you have to be very, very careful."

video business — studios, directors, writers, actors, stunt performers, the screen guilds, cartoon character licensing, and so on — but she handles musical, photographic, documentary, and literary material as well. Alofs is remarkably adroit at getting the clearances that producers want, at prices the growing CD-ROM industry can afford.

Total Clearance does what many multimedia producers are unable to do for themselves: develop and carry out a clearance strategy. When a film or video clip is being considered for reuse in a multimedia production, producers call in Total Clearance to help them identify the potential risks and liabilities. "We ask a battery of questions," says Alofs. "Where do you plan to use this product? How do you plan to use this product? For one year or forever? What are the media you're going to use, and in what manner are you going to use them? What about derivative products, localizations, future versions? Often we force producers to think about problems and opportunities they've never considered before. That can save them lots of trouble later."



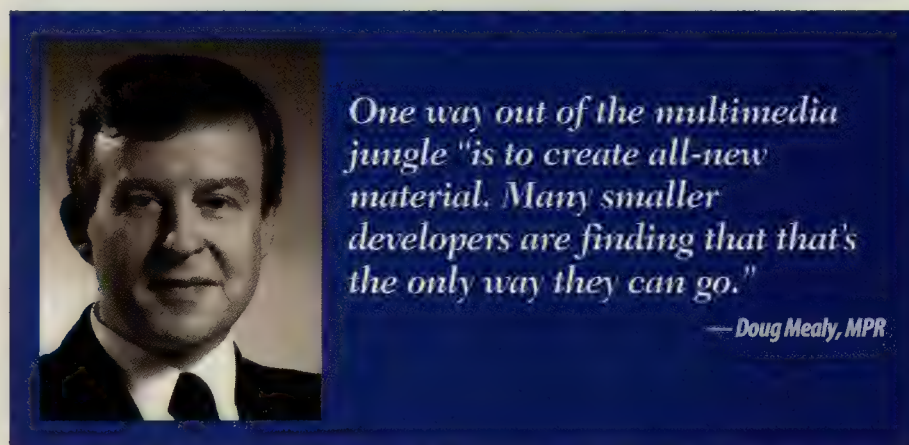
jungle. "Some producers stick with copyrighted material that is not famous. Another way is to be a big copyright holder yourself, like the Time Warner Group. Time Warner is the largest copyright holder in the world — they don't have to go to anyone else.

"Or you can work out a long-term relationship with a rights holder. Broderbund just did a deal with Random House, where they will jointly develop multimedia products. You can probably expect to see 'Cat in the Hat' CD-ROMs before long. [Random House is the publisher of Dr. Seuss books.] The last way is to create all-new material. Many smaller developers are finding that that's the only way they can go."

Most industry experts agree that in order for multimedia to fulfill its potential, producers, and rights holders must get together to write standard contracts. Then they must set reasonable, industry-wide prices. With all the distrust between the two groups, however, that ideal situation appears to be a long way off.

Getting Total Clearance

One way through the clearance wilderness is to have someone else hack a path for you. That's just what Total Clearance does. Founded earlier this year in Mill Valley, California, by Jill Alofs, who previously managed LucasFilm's rights



acquisition department, Total Clearance is one of the first multimedia clearance service bureaus.

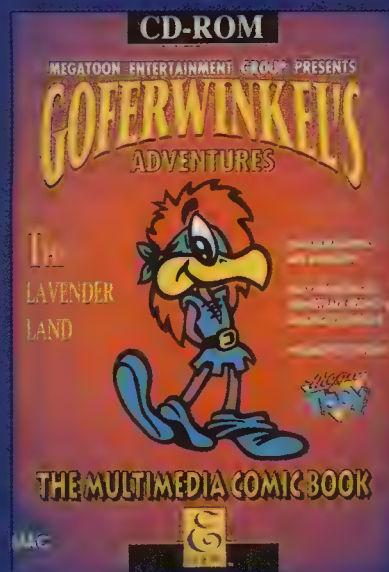
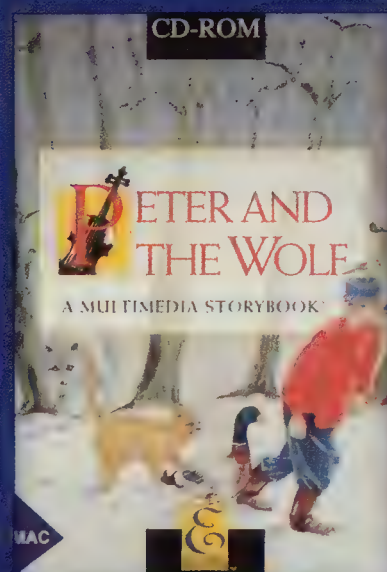
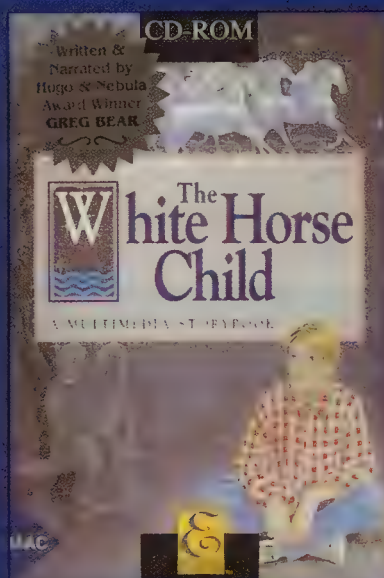
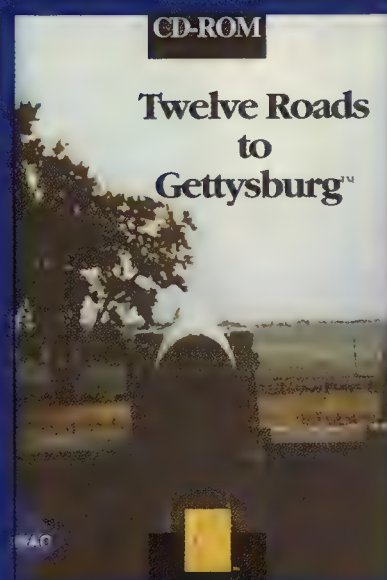
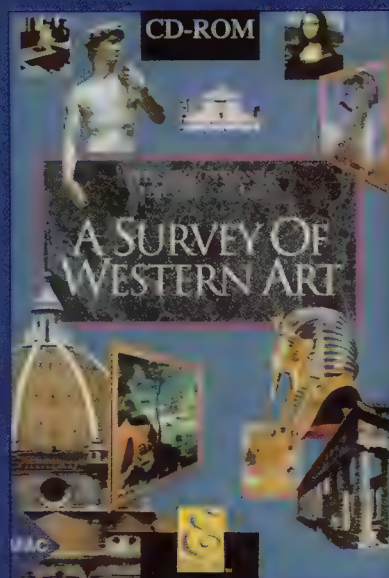
For a fee, Alofs will negotiate for the rights to material that producers want to reuse as multimedia content. Her particular area of expertise is the film and

Once these issues are settled, Alofs locates the rights holders and negotiates with them. Things don't always go smoothly, she admits. "Often the most difficult challenge we face is that the rights holders, particularly estates holding rights to deceased performers, don't know

Jazz History, Tiger! Tiger,! Mowgli's Brothers, California Travel

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Product Information Number 110

Sleeping Beauty, Beauty & Beast, Peter & Wolf, Don Quixote, Star Child, Aesop's Fables



"I had one performer tell me, 'I'm just afraid they're going to chop my head off in this computer and I'm going to be standing there mutilated.' I had to have written into the contract that the performer had to be depicted whole."

— Jill Alofs,
Total Clearance

exactly what multimedia is. They're intimidated by CD-ROMs and computers and the whole technical side of it. I had one performer tell me 'I'm just afraid they're going to chop my head off in this computer and I'm going to be standing there mutilated.' That was a real horror

for him. I actually had to have written into the contract that the performer had to be depicted whole."

Often Alofs suggests digital modifications to the material that will reduce the number of rights holders who appear in it. For game footage used in one sports CD-

ROM, she recommended that the producers black out the background ads so she would not have to get clearances from the advertisers. Then the announcer's voice was edited out, the organ music was cut, and some of the players were removed. The network that owned the copyright to the footage was willing to go along. Finally, only key players were left, making the clearance job simpler, faster, and much less expensive.

"Computer editing makes it easy to remove what multimedia producers don't want, and they only have to pay for what they use," she notes. "Performers and other rights holders who ask high clearance fees, but who are not essential to a project's success, should keep that in mind." For more information, contact Total Clearance, P.O. Box 836, Mill Valley, CA 94942 (415)389-1531.

The Language of Rights and Clearances

The field of clearances has its own jargon, drawn mainly from the language of copyright law. Here's a glossary of some common terms.

Clearance: Obtaining the legal right to reuse a work or image which is owned or controlled by another. For example, a clearance is needed to reuse a copyrighted work or to reproduce the image of a celebrity, such as a movie star.

Copyright: The legal rights that a creator has to control and profit from what he or she creates. The various aspects of copyright for works created in the United States are governed by U.S. law, but other countries have different laws, or no laws at all. When multimedia producers and lawyers speak of "rights," they usually mean copyright.

Copyright Holder: The owner of the copyright to a work. This is often the author, but may be a publisher, studio, network, sports league, or some other organization. For example, a film studio usually owns the copyright to all the footage in a movie released under its name.

Derivative Products: Products that follow or derive from a primary or main product. A sequel to a game or a foreign language version of a CD-ROM encyclopedia are derivative products. Multimedia producers usually try to obtain clearances for all conceivable derivative products.

Fair Use: The major legal limitation to copyright. Fair use defines some narrow cases in which copyrighted material can be reused without having to obtain clearance. A news-based CD-ROM, for

example, can include a picture of Michael Jordan without having to obtain his permission, but a CD-ROM game cannot.

License: A contractual agreement for the reuse of a copyrighted character or trademark. For example, if you want Bugs Bunny in your line of edutainment CD-ROMs, you have to obtain a licensing agreement from Time Warner, which owns the rights to all the Warner Brothers' cartoon characters.

Permission: See "Clearance."

Public Domain: A work for which the copyright has expired, thus becoming the property of the public.

Trademark: A name or symbol identifying a product or service. The trademark is registered with the U.S. government and can only be used or depicted by the trademark holder.



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Software



Pieces for Getting the Right Ingredients

For many people, it's the *multi* part of multimedia that seems so daunting. Whether you're

a desktop dilettante or a power-using pro, finding a good presentation program isn't all that difficult. But once you've learned the software and have the inspiration to actually create your own presentation, you're confronted with that *multi* dilemma.

Putting together a presentation in the true spirit of multimedia means blending several kinds of media elements and creatively combining them into a finished product. And unless you have a staff of specialists at your disposal, this may mean assuming responsibilities that range from composing and sound design to graphic art and photography. Add the further constraints of a tight deadline and a limited budget and it's no wonder that many people feel overwhelmed.

Fortunately, this problem has not gone unnoticed. Multimedia's increasing popularity has spawned a

the for Presentations Puzzle

David Rubin

Whether you're after photographs, backgrounds, video, graphics, fonts, music, or sound effects, there are plenty of quality CD-ROMs available to fit your media needs.

burgeoning marketplace for prepackaged, license-free, media elements. The concept of clip art has quickly expanded to include myriad art forms, and CD-ROM has now become the anointed distribution medium.

If you're about to enter the world of multimedia

production, you would be wise to put together a media-clip tool kit — a resource center that you can turn to for your multimedia building blocks. Although it's impossible to cover this field entirely in a single article, we'll look at the main categories of tools that a good resource kit would include and explore some of the products currently available.

Music and Sound Effects

Just about everybody has an opinion about which music is good and which is bad. But most people don't have the training or the time to compose and record a professional-quality soundtrack. Libraries of background music and sound effects have been around since the early days of radio, and now you can get production-quality music and sound

effects in a variety of file formats for importing directly into computer presentations.

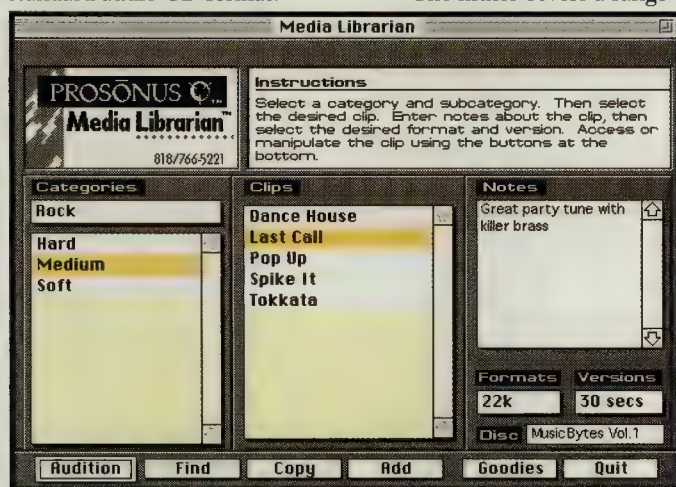
MusicBytes from Prosonus (\$100; IBM or Mac) is one of the best and most versatile production music CD-ROMs. It's a dual-function disc that includes both CD-audio (Red Book audio) and CD-ROM data. The 27 *MusicBytes* compositions come pre-edited in 60-, 30-, 15-, and 5-second lengths in styles that include bebop, classical, corporate, jazz, new age, industrial, rock, and more.

The disc's first track contains the music in MIDI file format and digital audio — WAV files in the IBM version, and 11 and

22kHz AIFF files in the Mac version. The rest of the disc provides the same music in standard audio CD format.

offered in CD-audio format for playback on any standard CD player.

The music covers a range



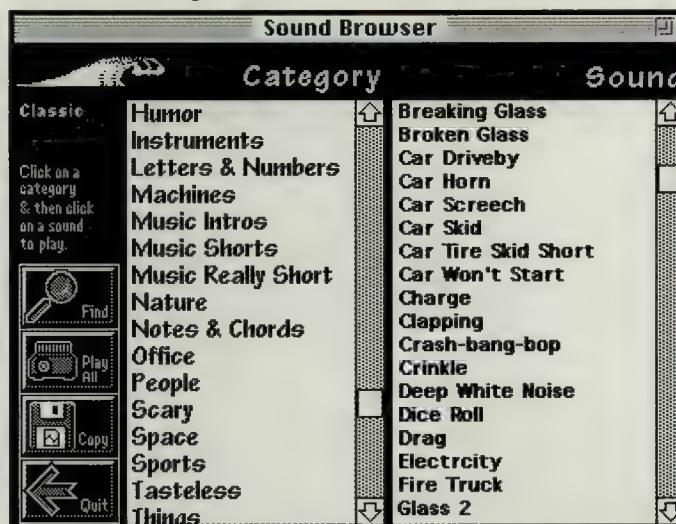
MusicBytes

MusicBytes also includes 107 sound effects and Media Librarian, an easy-to-use front end for finding and auditioning tunes.

Stingers from The Music Bank (\$99; IBM/Mac) contains 98 high-quality multimedia music clips in a variety of different 22kHz digital audio formats: 8-bit and 16-bit, mono and stereo, WAV and AIFF files. The same clips are also

of styles — ethnic, corporate, classical, contemporary, broadcast, novelty, jazz, rock, and many others. There are also drum rolls, sound effects, fanfares, and other musical elements. All of the *Stingers* music clips are short, ranging from about two seconds to a little more than a minute. This makes them ideal for intros, exits, links, and transitions.

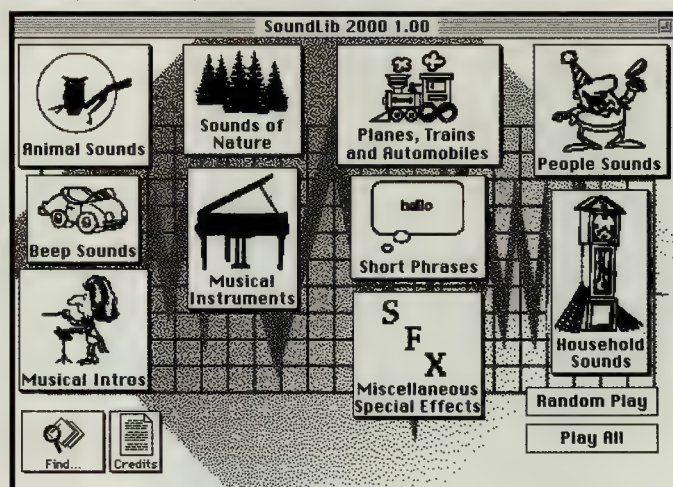
Music Madness II from



A Zillion Sounds

AMUG (\$99; Mac) contains more than 16 tunes and 138 music loops, including an assortment of musical sound effects. The files come in 11kHz mono and stereo and 22kHz stereo System 7 format, and 44kHz stereo AIFF. The music is divided into six categories: jazz, rock, funk, Latin, drums, and cool licks. The complete pieces provide good generic background music for multimedia and since they're also offered in sections (intro, verse, bridge, etc.) you can easily mix, match, and loop segments to create custom soundtracks of almost any length. The CD also contains Sound Factory — a handy HyperCard tool for auditioning and combining musical segments.

SFX on CD ROM from Sound Ideas (\$70; MPC) is an excellent choice where versatility and recording quality are prime concerns. The disc contains 300 general-purpose sound effects in five formats: 8-bit and 16-bit, mono and stereo, WAV files at 22kHz, and 16-bit, 44.1kHz Red Book audio. The CD also



Sound Library 2000

features a sophisticated, but user-friendly search program that helps you find the right sound even if you aren't quite sure what you're looking for.

A Zillion Sounds from BeachWare (\$60; IBM/Mac) contains a whopping 2,177 sound effects and music clips organized into 30 categories such as animals, hi tech, people, humor, environments, and sports. The sounds are offered as 8-bit files with most recorded at 22kHz and a few at 11kHz. The IBM files are in WAV format, and Mac files are in SoundEdit and System 7 format. A nicely designed browser utility is also included along with several sound-related shareware programs.

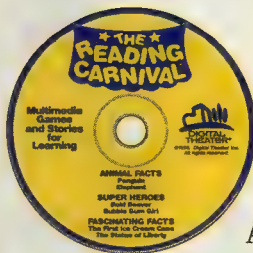
Sound Library 2000 from Wayzata Technology (\$79; Mac) is another large collection of sound effects that offers — as its name suggests — more than 2,000 clips divided into ten categories (e.g., nature, household, animals, people, instruments, transportation). The files come in 8-bit, 11 or 22kHz resource (SND) format. A

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Traditional clip-art libraries grew originally from the needs of advertisers and others who worked extensively with print media. Now with the advent of multimedia, clip art has assumed new importance for quickly assembling images, borders, symbols, bullet points, logos, and the other visual elements that add vitality to presentations.

With multimedia, images need not remain static as they do on paper, and in many cases you can modify clip art to use as the basis for animations. Fonts aren't just for paper anymore either. Flying logos, headlines, and other text-based elements demand interesting fonts to capture the attention of viewers. Here are just a few products to consider.

Images With Impact from 3G Graphics (\$500; IBM/Mac) is an excellent collection of over 1,000 images about half of which are in full color. Furthermore, many of the drawings include nested images that you can extract to provide a total library of approximately 3,600 separate clips.

The CD-ROM features six of 3G's popular image libraries: Places & Faces 1, Accents & Borders 1 and 2, Business 1, Graphics & Symbols 1, and People 1. The drawings are



offered in BMP formats for PC users, and EPS and PICT (72 dpi) formats for Mac users. This is a terrific collection of quality art that is well-suited to multimedia applications. The documentation provides helpful suggestions for making the most of this versatile image library.

Metro ImageBase on CD-ROM (\$146; IBM or Mac) comes from a division of Metro Creative Graphics, a venerable name in the commercial art field for more than 80 years. Selected from Metro's inventory of over one million images, the ImageBase CD offers 2,000 high-quality, black-and-white drawings in 11 categories: art deco, business, computers, cartoons, fashion, borders, headings, holidays, miscellaneous, religion, and sports. The PC version contains 2,000 TIFF images. The Mac version consists of 1,000 TIFF and 1,000 EPS images.

Metro has just released a new CD-ROM entitled *Food* (\$80; IBM/Mac), which dishes up 440 culinary images from baked goods and desserts to vegetables and ethnic favorites. The drawings are provided for both PC and Mac as 300 dpi TIFF files.

Key ClipMaster Pro from Softkey (\$40; IBM or Mac) offers a huge library of 5,001 images on a single CD-ROM. The pictures — selected from the Metro collection — are provided as 300-dpi TIFF files and organized into 18 categories, which include

alphabets, animals, business, cartoons, fashion, travel, borders, holidays, sports, and much more. The disc also includes a helpful viewing utility that lets you preview each image before you import it.

If you need to expand your collection of fonts you might consider *KeyFonts Pro*, also from Softkey (\$40; IBM/Mac). It's a useful library of 303 PostScript and TrueType compatible fonts that includes 216 classic typefaces and 87 specialty display fonts. The *KeyFonts Pro* collection also contains decorative dingbats, all the extended ASCII characters, and complete international character sets. For Windows users, there's a utility that lets you



rename typeface families.

Quick Art Deluxe from Wayzata (\$349; IBM or Mac) is a substantial collection of over 3,300 TIFF images created by Wheeler Arts. The library is divided into 59 subjects such as animals, food, holidays, maps, people, travel, and so on. The disc

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DIGITAL VIDEOS WITH MUSIC

Four CD-ROMs packed with dozens and dozens of videos and orchestrated music. Mac clips come bundled with the Aldus Fetch Browser - the powerful multimedia cataloging, browsing, and retrieval software. Each CD-ROM covers a different popular topic. **AMERICA IN MOTION** features videos of the American lifestyle including holiday events, places and landmarks; with music ranging from Ragtime to Rock 'n Roll. **BUSINESS IN MOTION** contains graphic videos workers making a difference in manufacturing, agriculture, aerospace and construction. Also included are musical themes perfect for any presentation. **NATURE IN MOTION** contains videos of the plant and animal kingdoms, combined with classical orchestrated music. **SPACE IN MOTION** has the best U.S. & Soviet videos and NASA animations, along with music. Best of all Jasmine's clip video can be used royalty free in any computer presentation.

DIGITAL VIDEOS WITH TEXT

FAMOUS FACES: Meet the 100 most prominent people of the 20th century on video. The inventors, politicians, celebrities, artists, business and religious leaders who made history, combined with educational textual biographies and famous quotes. This interactive CD-ROM includes Churchill, Sadat, Ghandi, Disney, Ford, Edison, Einstein, Thorpe, Hirohito, De Gaulle, Wright Brothers, Houdini, King, and so many more. As with all Jasmine titles, the video clips and text can be used royalty-free in any computer presentation.

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also includes a demo version of Mariah, a multimedia manager program from Symmetry Software. With Mariah you can easily find, view, and print any image. If you can't use TIFF files, Mariah can convert them to PICT or Paint format.

Wayzata also offers *epsPRO Volume 1: Design Elements* (\$199; IBM/Mac), an attractive collection of over 750 EPS images (with several in color) from the studios of Christopher Marshall Designs and LasArt. Many of these images — especially the color ones — are well-suited to multimedia displays. Wayzata's *epsPRO Volume 2* disc contains over 600 more images.

Photos and Backgrounds

There's no question that a few well-placed photographs can turn an otherwise mundane presentation into a classy production. But obtaining professionally shot, computer-ready photos has not always been an easy task. The popularity of CD-ROMs, however, has now made it practical for a growing number of companies to offer large libraries of stunning digitized photos. You no longer have to travel the globe or hire expensive models to create a presentation that looks as if you did.

Although CD-ROM photos can be quite effective at capturing a viewer's attention and providing an on-screen focal point, many photos also



ColorBytes Sampler One

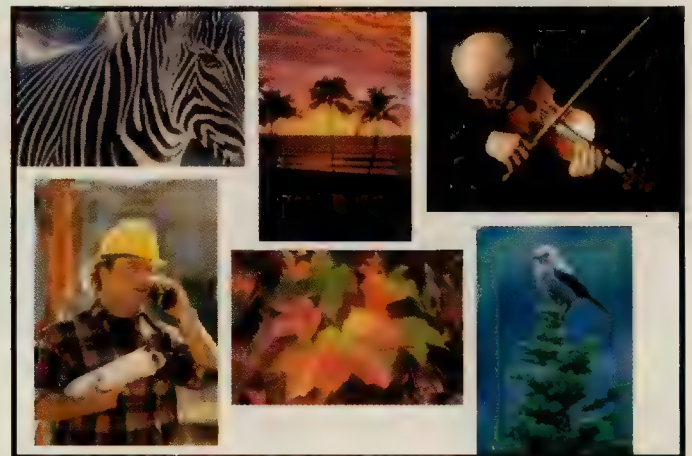
work particularly well as background images. In fact, several companies now offer CD-ROMs dedicated specifically to background textures for multimedia, 3-D rendering, and other applications. Here are some titles to consider.

ColorBytes Sampler One (\$399; Mac) is a collection of 100 high-resolution color photos in a number of categories including wildlife, nature, backgrounds, urban scenes, historic buildings, and space. The photos are consistently top-notch and many are truly spectacular. Each image in the collection has been saved in six different formats: JPEG, RGB TIFF, 8- and 24-bit PICT, and 8- and 24-bit QuickTime. The disc also includes multimedia slide shows of the pictures and demo versions of Adobe *Photoshop* and Aldus' *Fetch*.

PhotoDisc offers an impressive series of CD-ROMs providing hundreds of superb high-resolution photographs in a wide range of categories for

both PC and Mac. Each of the nine PhotoDisc volumes comes on a separate CD which you can purchase individually (\$395) or as part of a set. The discs are entitled: Business & Industry (408 images); People & Lifestyles (409 images); Backgrounds & Textures (111 images); Science, Technology & Medicine (227 images); World Commerce & Travel (352 images); Nature, Wildlife & Environment (336

images); Backgrounds & Objects (336 images); and Holidays & Celebrations (336 images). The pictures are provided in 24-bit 300-dpi TIFF and JPEG-compressed TIFF formats. Each disc also includes LightBox — an excellent utility for browsing and



PhotoDisc

retrieving images. LightBox lets you fill your screen with multiple low-resolution slide-like versions of the photos to help you review each disc's contents.

Gazelle Technologies markets several different kinds of stock-photo CD-ROMs. Although they vary in price and quality, the diversity of titles makes them a useful resource for many applications. One of Gazelle's more unique offerings is its *Swimsuit* title (\$130; IBM/Mac), which features more than 200 model-released photos of beautiful women posing in a variety of exotic locations. The pictures are provided in 8- and 24-bit TIFF formats for the PC, and 24-bit TIFF and 8-bit PICT formats for the Mac. Flipping through the pictures on a Mac is easy with the included HyperCard browser. Windows users get a similar utility. The disc also contains several other utilities and an Adobe *Photoshop* demo.

When Those Wackos Change It There



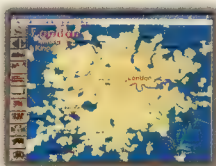
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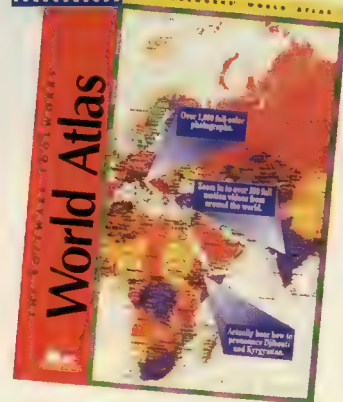
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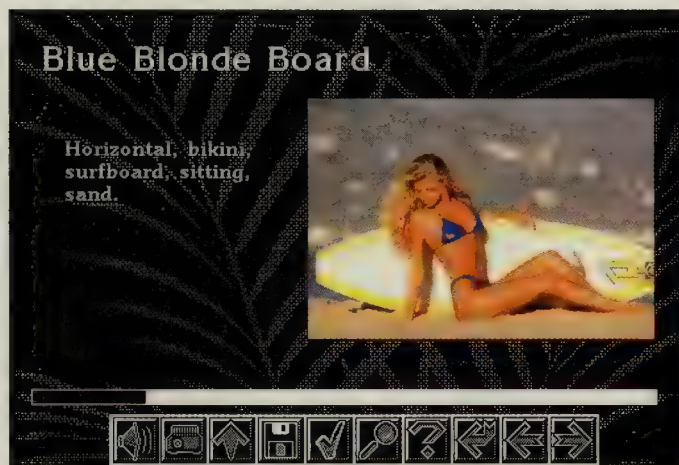
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*Hey, you'd be a little wacko just trying to keep track of what's happened in the Balkans in the last three months!

To Explore...



**Swimsuit**

If your interests lie further out to sea, consider Gazelle's *Ocean Magic* (\$80; Mac). It contains 160 color photos of aquatic plants and animals in 24-bit TIFF and 8-bit PICT formats. Gazelle publishes several other CD-ROMs with pictures of people and nature.

Wayzata Technology

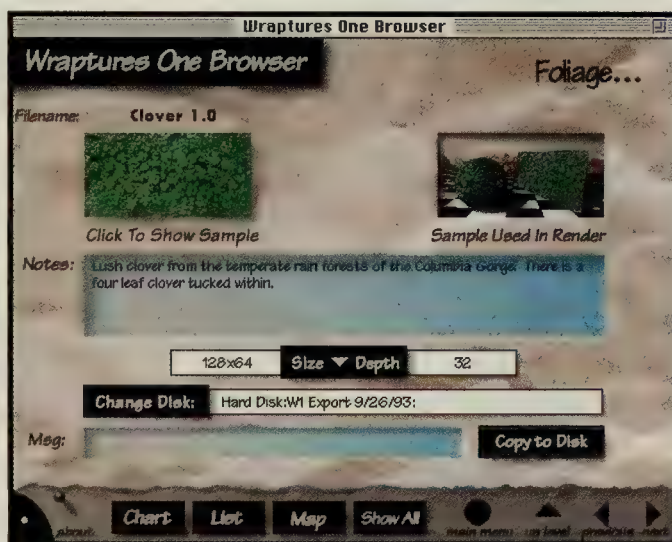
Things contains over 125 images. All files are in 24-bit TIFF format and include thumbnails to help you locate specific photos.

Artbeats, well-known for its collections of fine background images, has recently garnered considerable attention with its two CD-ROM set

**Marble & Granite**

offers three CD-ROMs of general-purpose stock photos as part of its Photo Pro series (\$129; IBM/Mac). *Volume 1: Patterns of Nature* contains more than 100 images, *Volume 2: People Doing Things* offers more than 110 images, and *Volume 3: People, Places &*

titled Marble & Granite (\$349; IBM or Mac). The company describes it as a "comprehensive collection of digitized stone," and that pretty much sums it up. This versatile library of rock-like textures comes in an assortment of configurations and formats

**Wraptures One**

including: 40 high-resolution TIFF files suitable for pre-press, 120 PICT files (Mac) or TIFF (IBM) for multimedia, 225 buttons and mortises, 8 metallic textures, 162 seamless tiles, and more. Artbeats also markets two other CD-ROMs titled *Backgrounds for Multimedia* (\$289; Mac). Each volume provides 40 full-screen patterns and textures in 8- and 24-bit resolutions.

Another popular collection of background textures comes from Form and Function. *Wraptures One* (\$129; Mac) contains more than 129 seamless textures in 8- and 32-bit PICT format. These imaginative and often whimsical backgrounds include such images as brick, wood, stone, bark, clover, clouds, fire, water, galaxies, planets, landscapes, and more. Several backgrounds (such as water and clouds) come with animated (PICS) versions as well. *Wraptures Two* expands the collection with over 150 more backgrounds and adds new categories such as Foods and Crystal & Glass. Both *Wraptures* discs include an exceptionally nice HyperCard-based color browser utility. It provides specs and useful comments about each image and gives an indication of how the texture will look when used on the surface of a 3-D object.

Animation and Video Clips

The single characteristic that most distinguishes multimedia from printed material and slide shows is the presence of motion. The best presentations always capitalize on movement to capture the viewer and to stress important points. With the introduction of QuickTime and Video for Windows, it has become not only possible, but also easy to bring television-like activity into almost any presentation.

Unfortunately, creating movies from scratch takes special hardware and often a significant investment in time and travel. These obstacles, however, are rapidly disappearing as an increas-

The Labyrinth of Time

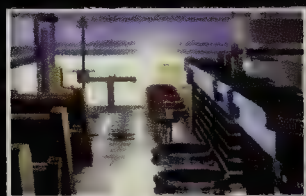
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CD
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The Labyrinth of Time. An epic fantasy of time travel and adventure, possible only on CD-ROM. The legendary King Minos has commissioned a labyrinth bridging time and space.

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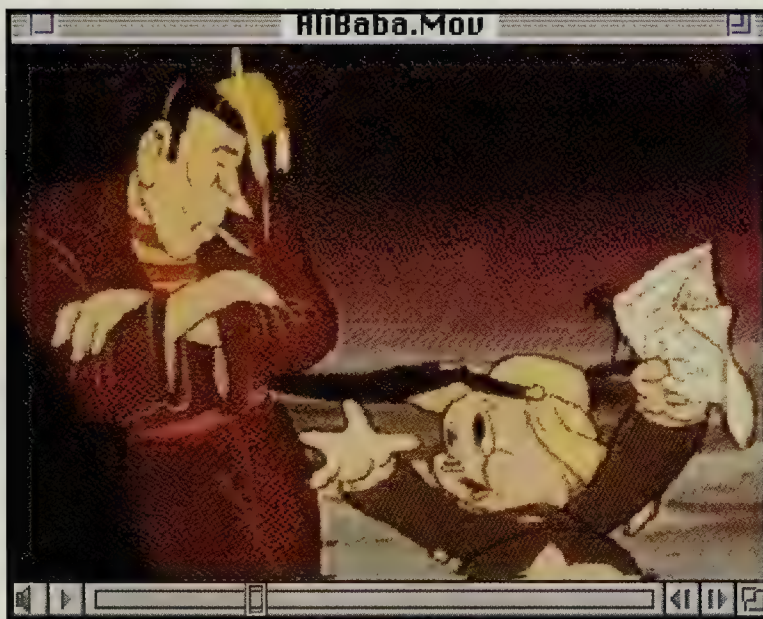
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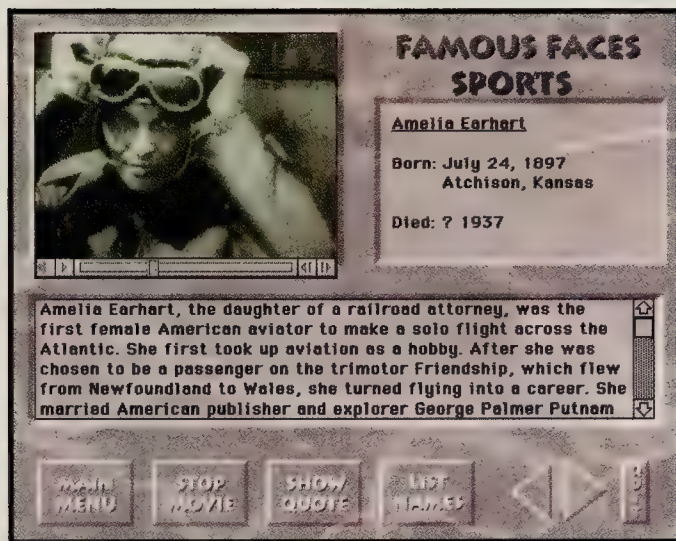
Product Information Number 148



QuickToons

ing number of royalty-free, stock-footage video-clip collections find their way to the market. You can now paste these ready-to-play movies into the project of your choice and

movies showing people and places of all kinds. From cruise ships to country roads, from beneath the ocean to city skylines, this library offers a good assortment of short clips.



Famous Faces

save time and money in the process. Here are just a few of the many collections.

Digital Video Library from Gazelle Technologies (\$100; Mac) is a general-purpose collection with 180 QuickTime

The disc also includes a HyperCard browser that lets you flip through the clips and preview each one.

QuickToons from Wayzata (\$49; Windows/Mac) is an entertaining collection of six

full-length cartoons featuring Betty Boop, Porky Pig, Daffy Duck, and others. Because these early works are now in the public domain, you can edit them to your heart's delight and include them in presentations of all kinds. Three of the cartoons are in black and white, three are in color, and all include a complete soundtrack. You can play the clips directly from your CD-ROM drive, but unless your CD-ROM drive and system have sufficient throughput, you'll hear stuttering from the soundtrack. Playback from your hard drive will produce much better results but be aware that the complete cartoons take up lots of space (48-62 megabytes).

Jasmine Multimedia markets several collections of video clips as part of its Jasmine Stock Video Library series. One of the most interesting is *Famous Faces* (\$100; IBM or Mac), an assemblage of famous inventors, artists, politicians, celebrities, and business leaders who have shaped

twentieth-century history. The movie clips feature such notables as Charles Lindbergh, FDR, Winston Churchill, Charlie Chaplin, Albert Einstein, Marilyn Monroe, Fidel Castro, the Beatles, Thomas Edison, and many more (99 in all). You can navigate with the well-designed browser, which also provides biographical information and dates for each personality.

Jasmine also offers *Nature in Motion* (\$100; IBM or Mac), a collection of video clips depicting various plants, animals, and scenic settings. To complement the visuals, the disc includes an assortment of classical music clips. Other titles from Jasmine are *Business in Motion*, *America in Motion*, *Sports in Motion*, and *Amazing Moves*.

Form and Function has expanded its collection of multimedia textures with a CD-ROM devoted primarily to animated backgrounds. *WrapureReels One* (\$199; Mac) contains dozens of standard and time-lapse video clips of clouds, sunsets, water, oceans, fire, and abstract patterns. These are loopable, 32-bit broadcast-quality (30 frames per second) QuickTime movies that work well in a variety of multimedia and 3-D rendering applications. The CD-ROM also includes 18 sound effects and a HyperCard browser for viewing the clips.

Mixed Media

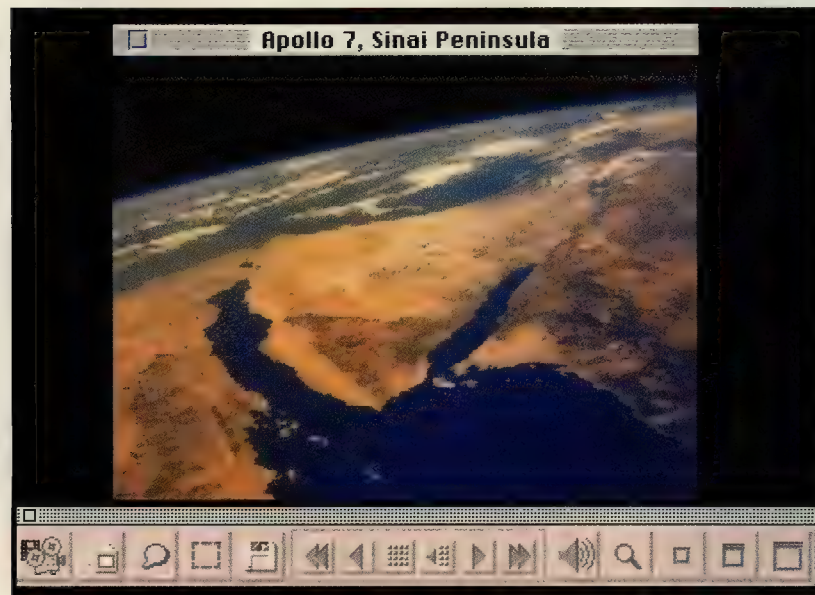
Many of the CD-ROMs discussed above provide a second type of media element. For example, a production music library might include several sound effects, a video-clip library might add still photos, or a collection of photographs might offer music. A number of companies have carried this concept one step further by producing CD-ROMs with three or more kinds of media elements on a single disc. Under the right circumstances, this one-

stop-shopping approach can be an easy and cost-effective way to assemble clips for multimedia projects. Here are some examples.

MultiWare from

clips (SoundEdit). The QuickTime movies cover a range of topics such as animals, business, cities, nature, and sports. The music and sound effects (often

about 100 photos along with 50-100 audio clips that relate to or complement the images. Many of the Aris titles provide video clips in addition to still photos and music. *World View* (\$40; IBM/Mac), for instance, offers 100 spectacular NASA photos of stars, planets, spacecraft, and other astronomical objects. There are also 25 movies of blast-offs and astronauts, and 100 audio clips of original music.



World View

BeachWare (\$80; Mac) exemplifies the products in this category. This is an excellent, well-assembled collection of media resources. The disc offers 101 QuickTime movies with sound, 116 tile-able texture backgrounds (24-bit TIFF and 8-bit PICT), 103 color button pictures (8-bit PICT), 80 sound effects, and 33 music

humorous) include several sounds that can be used for buttons. You can preview any of the media clips with the included HyperCard stack, and there's also a demo version of *Photoshop*.

Aris Entertainment has several CD-ROM collections of imaginative, high-quality photographs for multimedia. Each disc typically includes

Aris has recently released three new titles. *Tropical Rainforest* is a collection of 100 photos and 25 videos of exotic plant and animal life combined with 100 audio clips of native music. *Full Bloom* features photos and video clips of plants and flowers along with classical piano music, and *Deep Voyage* contains photos and videos of underwater life combined with contemporary music clips. Each CD includes an easy-to-use browser utility.

Macromedia, famous for its multimedia software, also markets CD-ROMs packed with material for desktop presentations and other productions. The ClipMedia series consists of three discs for either IBM or Mac. *Volume 1: Business & Industry* (\$395) contains 375 graphic elements such as backgrounds, textures, masks, buttons, panels, and mortises. It also provides 75 business-oriented animations and 50 video clips of business scenes, landscapes, skylines, landmarks, and more. For audio clips, the disc includes 250 sound effects and 50 pieces of music.

Volume 2: Industry at Work (\$295) contains more than 700 graphic and photographic elements, 150 animations, 350 sound effects, and 30 music clips. *Volume 3: Perfect Presentations* (\$195) offers 377 graphic elements, 321 animations, 252 video clips, 29 sound effects, and 10 pieces of music. ClipMedia's graphics files are in BMP format for the PC and in PICT format for the Mac. Animations are delivered as Windows AVI for QuickTime files. Sound effects and music are provided as 8-bit, 22kHz AIFF files (SoundEdit files on Vol. 2) for the Mac or WAV files for the PC.

Publisher Info

AMUG 4131 N. 24th Street, A-120, Phoenix, AZ 85016 (602) 553-8966

Aris Entertainment 310 Washington Blvd., Suite 100, Marina del Rey, CA 90292 (310) 821-0234

Artbeats P.O. Box 1287, Myrtle Creek, OR 97457 (503) 863-4429

BeachWare 5234 Via Valarta, San Diego, CA 92124 (619) 492-9529

ColorBytes 2525 S. Wadsworth Blvd., Suite 308, Lakewood, CO 80227 (303) 989-9205

Form And Function 1595 Seventeenth Ave., San Francisco, CA 94122 (415) 664-4010

Gazelle Technology 7434 Trade St., San Diego, CA 92121 (800) 843-9497

Jasmine Multimedia Publishing 6746 Valjean Ave., Suite 100, Van Nuys, CA 91406 (818) 780-3344

Macromedia 600 Townsend Street, San Francisco, CA 94103 (800) 288-4797

Metro ImageBase 18623 Ventura Blvd., Suite 210, Tarzana, CA 91356 (800) 525-1552

PhotoDisc 2013 4th Ave., Seattle, WA 98121 (800) 528-3472

Prosonus 11126 Weddington St., North Hollywood, CA 91601 (800) 999-6191

Softkey Software Products 4800 North Federal Highway, 3rd Floor, Bldg. D, Boca Raton, FL 33431 (800) 377-6567

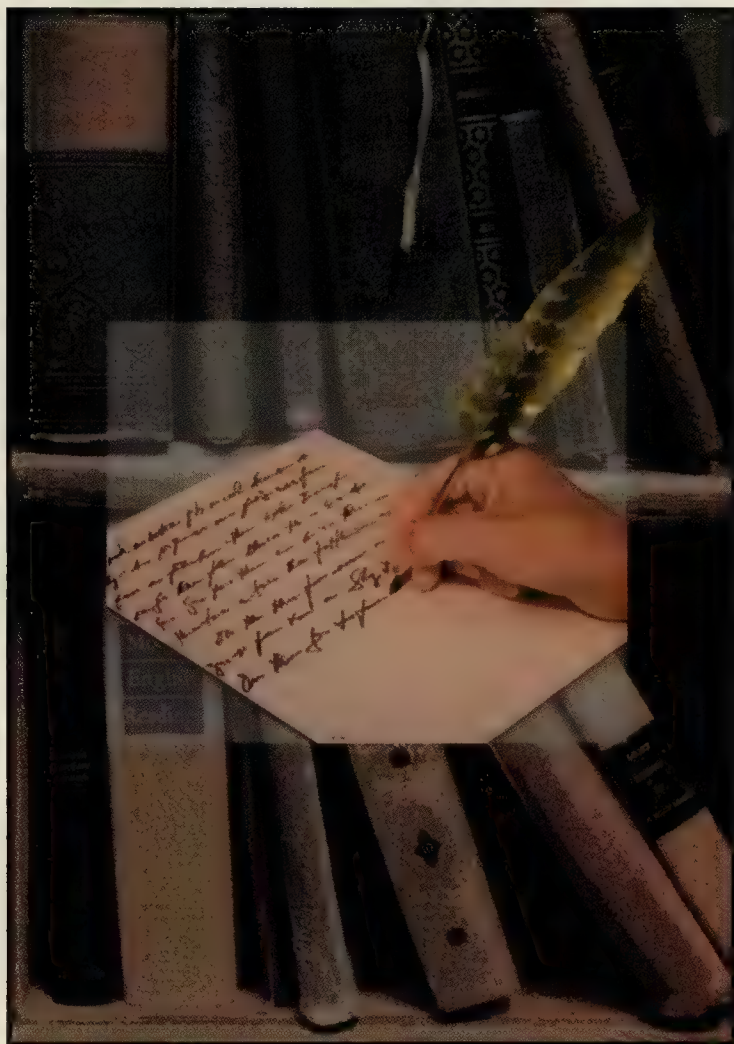
Sound Ideas 105 W. Beaver Creek Road, Suite 4, Richmond Hill, Ontario, Canada L4B 1C6 (800) 387-3030

3G Graphics 114 Second Ave., Suite 104, Edmonds, WA 98020 (206) 774-3518

Wayzata Technology 2515 East Highway 2, Grand Rapids, MN 55744 (800) 735-7321

The Turn of a New Page

T. Liam McDonald



The classics of literature are now on CD-ROM, where cross-referencing thousands of works takes only seconds. And some of the more recent titles boast multimedia hooks that give a brand-new context to the literature of the past.

Some technophiles have predicted the death of print: hypertext-based computerized books will replace the printed pages and bound volumes that line our walls. Paper decays, bindings crack, but ASCII files live forever. Electronic text offers so much more than print — it can be moved over phone lines instantaneously, it can be made available to many people at once, and, compared to its print counterpart, it takes up a fraction of the space and costs far less to deliver.

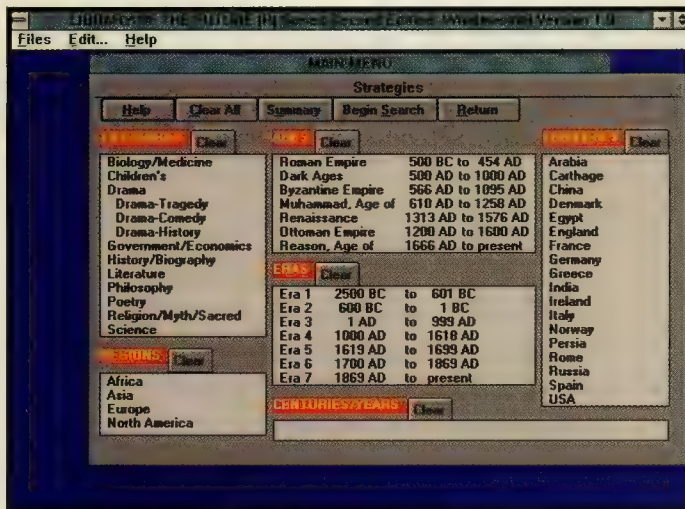
While only the most fanciful of futurists foresee the total demise of print, there's no doubt that computerized text is finding its place on the computers of the future. Still, few people will want to hunker down in front of the warm glow of their monitor night after night to read *A Tale of Two Cities*. And no one really wants to curl up in bed with their portable to read the latest from Tom Clancy, do they?

Still, it's perhaps profound to realize that this technology allows an entire library of almost a thousand books to be carried in your hip pocket. The benefits come mostly to students, who discover that the cross-referencing, cut-and-paste, and search-and-retrieval functions of CD-ROM literature make researching and writing papers much less time (and space) consuming.

The CD-ROM products available now generally include massive amounts of public-domain writing converted straight to disc, with a graphics shell to read the text and perform a variety of functions. The two leading products in this category are World Library's *Library of the Future* and Bureau Development's *Great Literature*. In terms of amount of material, both include about 2000 novels, stories, plays, poems, historical documents, and other works, with a fair amount of overlapping. Both CD-ROMs feature full word search and cut-and-paste capabilities, with noticeable differences in ease of use, interface, and advanced features.

Library of the Future

Now in its second edition, *Library of the Future* is in a state of steady improvement and is adding new books, with



What makes Library of the Future so powerful is its search-strategy function, in which you can match elements from up to six categories.

a third edition due out any day. The current issue (available only for the PC, with user-selectable DOS or Windows interface) allows easy access to 950 books. (The third release is to include all material from the second edition, plus another 850 works.) Listings can be brought up by title, author, or illustration, with a word-search facility using a variety of settings to find words or phrases.

The real power of *Library of the Future*, however, is in its search-strategy functions. Various search parameters can be set for Category (Children's, Government/Economic, Poetry, etc.), Region, Age (Roman Empire, The Dark Ages, etc.), Era, Year or Century, or Country. A search for children's literature from late nineteenth-century England yields works by Lewis Carroll, Rudyard Kipling, and James M. Barrie, for example.

In the Windows version, the book text comes up in a scrolling window. You can set the auto-scroll function to advance the page at certain intervals, and you can pull up illustrations at certain points in the text. Highlighting almost any word and clicking on *Hypertext* searches the CD-ROM for all other instances of that word.

Title selections are at times delightfully eclectic. The works you would expect — by Melville, Poe, Dickens, Austen, and a healthy selection of Classical writings — are all here, but there are also interesting oddball selections such as *Popol Vuh* (the “Mayan New Testament”), complete with hieroglyphic illustrations, and *Shrinking History*, David Stannard's

1980 critique of Freudianism. Numerous religious and historical documents are included, such as the Bible, the Koran, the Laws of Manu, the Book of Mormon, the Wisdom of Buddha, the Magna Carta, the Constitution, Lee's surrender at Appomattox, and others. Though sometimes short on classic novels (Austen and Dickens are each represented by a single title), *Library of the Future* is a fascinating, well-designed product, useful to any student of culture, history, or literature.

World Library also offers several CD-ROMs which are subsets of *Library of the Future*. *Great Poetry Classics* (\$49.95 SRP) features more than 1,100 famous poems — from the Middle Ages to present. *Shakespeare Study Guide* (\$24.95 SRP) offers the complete text of 14 of Shakespeare's best known plays with corresponding *Barron's Book Note Study Guides* (see “Study Guides” on next page). *Murder, Mystery, Magic, Terror & More* (\$49.95 SRP) contains 171 classic murder and mystery

The Bible on CD-ROM

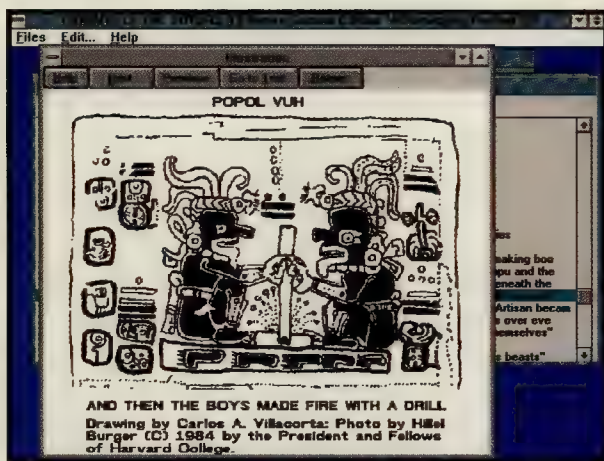
Stephen King, Tom Clancy, and Jackie Collins together couldn't equal the sales of *The Bible* or *The Koran*. The market for religious computer-based titles is also rapidly expanding, and the first of what is sure to be many products are beginning to appear. Bible-based CD-ROMs available now include *The New Family Bible*: *From the Garden to the Promised Land* (Time Warner Interactive Group), *The Interactive Old Testament* (Azeroth), *Bible Lands*, *Bible Stories* (Context Systems), and *The Multimedia Family Bible* (Candlelight Publishing).

The New Family Bible,

in which attention is paid to detail, uses a “book-shelf” as the main screen. From here, you can access one of nine subject groupings such as The Beginning, Exodus, The Monarchs, and so on. Choosing a subject calls up all related text and



The New Family Bible examines the Old Testament through maps, watercolor paintings, narration, cross-indexing, and an abundance of footnotes.



The inclusion of Popol Vuh, the "Mayan New Testament," is a strange but fascinating choice offered in Library of the Future.

stories, 58 of which are by Poe. Also included is a complete Sherlock Holmes set. Each of these titles features the same search-strategy function used in *Library of the Future*, and each runs under DOS or Windows.

Great Literature

Also useful to most any student of culture, history, or literature is Bureau Development's *Great Literature*, which has a wealth of material but only a serviceable interface and no Windows support. (On the other hand, this title is available for Macintosh owners.) The PC version of *Great Literature* partially makes up somewhat for these shortcomings with narration and live musical clips, neither of which are found in *Library of the Future*. Solo violin renditions of classic tunes ("The Ride of the Valkyries" and "The Star Spangled Banner," for example) accompany some texts. The illustrations are more numerous and

varied than in *Library*, and are drawn from a variety of sources. Narrations run the gamut from the sublime readings of Patricia Richardson-Smith to the fumbblings of George Kennedy (who simply sounds lost) to the inane Bob Saget, who offers a reading of Plato as Mel Brooks that simply must be heard to be believed.

The works themselves range from a curious collection of classics (Aesop's Fables, the poems of Blake, Poe, and Dante) to the downright arcane (e.g., Michael Faraday's *Chemical History of a Candle*). Dickens is represented only by the obscure *Ivy Green* (a separate Dickens CD-ROM is available from the Bureau), while Jane Austen and Nathaniel Hawthorne are not represented at all. All books can be accessed by author or subject, and simple word and subject searches can be performed.

There's a big difference in price between these two literature CD-ROMs. *Library of the Future* carries a suggested retail price of \$299, while *Great Literature* lists at \$54.95.

Study Guides

College or high-school students who just can't finish an assigned book — or who feel the need for a study aid in preparation for a test or paper — should check out *Barron's Book Notes*, from World Library, and *Monarch Notes*, from Bureau Development. These offer plot summaries, critical discussions, and possible essay questions. *Barron's* includes all 101 of its paper-based issues, and the *Monarch* CD-ROM includes the 200-plus study guides. The quality of the material itself is almost indistinguishable between the two, so any judgment must rest on the interfaces and pricing. Using the same interfaces described above for their respective literature collections, both World Library and

multimedia material. Each subject includes certain important stories, and provides a multimedia slideshow

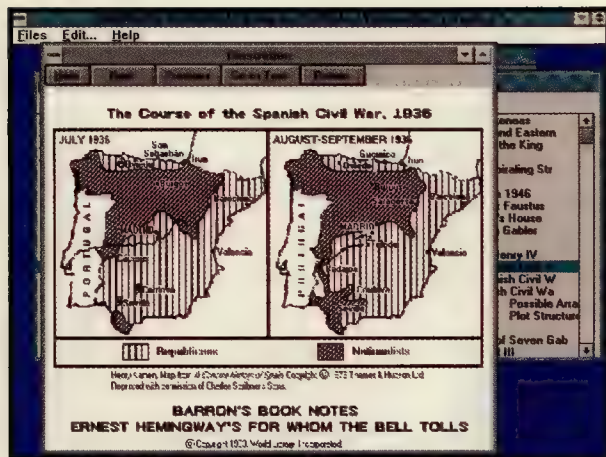


The main menu from The Interactive Old Testament shows the variety of entry points into the program.

using audio and watercolor paintings to tell the story. The watercolors aren't great, but the narration is effective and provides a good "children's version" of famous Bible stories. Family trees, pronunciations (in Hebrew and English), subject

indexing, royal lineages, and a variety of zoomable maps are also available, and each text is supplemented with extensive footnotes.

The Interactive Old Testament also has plenty of interesting material, including the full Old Testament text (with Apocrypha), maps, archaeological photographs, religious artworks, and a concordance. Using a main menu divided into Old Testament, Apocrypha, Lands and History, Concordance, and Comparative Religions, you can access material that runs from adequate to effective. Bible text is straightforward (no narration), and general searches can be made via the concordance. The section on Lands and History includes a detailed timeline, a lengthy description of



Background materials are used extensively in Barron's Book Notes. Here, a graphic on the course of the Spanish Civil War supplements notes on Hemingway's *For Whom the Bell Tolls*.

Bureau Development provide easy access to information and full search-and-retrieval capabilities. The main differences are in price and formats: *Monarch Notes* (\$69.95 SRP) is available for the Mac and PC (but DOS only), while *Barron's Book Notes* (\$24.95 SRP) runs under DOS or Windows.

The Multimedia Enhancement

Since the release of *Great Literature* and *Monarch Notes*, Bureau Development has produced one of the best multimedia literature products yet seen. The life, times, and writings of Mark Twain are the subject of the newly released *Twain's World* (\$39.95 SRP, for Windows and Mac). Combining a complete library of Twain's work with photos, commentaries, animation, and even some video clips, *Twain's World* is not just an interesting literature

product, but also a wonderful, comprehensive showcase of one of America's foremost writers and a brilliant introduction to Twain for children.

The goal of *Twain's World* is to make Mark Twain, his world, and his writing come alive. The foundation of this product is a complete collection of all the books (non-fiction and fiction), stories, essays, speeches, and letters written by Twain. More than that, there are numerous memoirs, reminiscences, and commentaries from Twain's friends and scholars. As such, it is the equivalent of a 20-odd volume set. Each work, no matter how small, is introduced by a thorough publishing history and summary. More important works come with commentaries by notable Twain scholars. Following each entry are small quizzes with



In *Twain's World*, a timeline of the author's life offers buttons linked to a variety of multimedia sources.

multiple-choice questions and essay topic ideas. Colloquialisms and more challenging words are highlighted in green, and clicking on them calls up a short definition.

biblical music (with spotty synthesized samples), a number of maps, an art gallery featuring Michelangelo, Da Vinci, Durer, and many others, and a section on archaeology and artifacts. Unfortunately, the screen is so oversized that the edges run off the monitor, obscuring captions and important function buttons. The section on Comparative Religions offers a layman's guide to Catholicism, Protestantism, Islam, and Judaism, while the several dozen Bible stories geared for children include narration and a few cartoonish illustrations.

While *The New Family Bible* and *The Interactive Old Testament* are family-oriented products designed around Bible texts, *Bible Lands*, *Bible Stories* (Context Systems) is made exclusively for children. Featuring narrated

retellings of Old and New Testament stories, *Bible Lands* uses a handsome, simple interface designed around a map of the Holy Land. Children can access stories grouped by location, then play, repeat, or stop them as they wish. Each story is accompanied by a series of static watercolor paintings, sound effects, and a number of different



***Bible Lands*, *Bible Stories* is designed primarily for children, and uses a map of the Holy Land as the interface.**



The only known video footage of Twain — supposedly shot by Thomas Edison — is shown in Twain's World.

Some stories which are standard for young readers (e.g., the Tom and Huck books, "The Jumping Frog...", and *Connecticut Yankee*) also have a small cartoon introductions, most of which are silly, but also a nice touch. Each work is further enhanced by various multimedia toggles. These range from simple but attractive color drawings of story characters to photos, video, and narrated portions that augment the flavor of the dialect. There are numerous snapshots and portraits of Twain, and period pieces — via both photos and video — provide useful historical context. Hyde Park, men marching off to the Civil War, and Twain himself (the only footage of Twain extant, allegedly shot by Thomas Edison) come to life in a series of stuttering "motion pictures" that nicely complement the writing.

All multimedia elements can be accessed in the Gallery section of the program, divided into Video, Narration, Photos, and Characters. The latter category is an exhaustive

listing of the majority of Twain's characters, with an accompanying picture and a relevant quote. A timeline of Twain's life rounds things out, providing descriptions of important events and buttons linked to various multimedia sources. Narrated slideshows go through Twain's early, middle, and later years.

With *Twain's World*, Bureau Development has created a wonderful product that makes outstanding use of multimedia technology for enhancing literature. By drawing from an impressive array of authorities and curators from various Twain archives and historical sites, the Bureau has made *Twain's World* a definitive collection. The bells and whistles of video and narration may not mean much to some, but the exhaustive amount of Twainiana makes for a product that's essential to any Twain fan or student of literature. There's much to admire in this package, and it comes highly recommended.

Literature on CD-ROM is an interesting step in the development of the written word. The potential boon for researchers, students, and libraries are obvious, while others may find 1000 books on disk a mere novelty. *Twain's World* in particular shows how multimedia technology can be used to enhance and teach a text: to give it a new life, in essence. With science-fiction novelist William Gibson releasing a book on disc (for \$2000 each) that disappears as you read it, and other publishers rushing disc versions of Isaac Asimov and other writers to market, there are bound to be more twists and turns in the realm of computer literature.

Publisher Info

Bureau Development 141 New Rd., Parsippany, NJ 07054 (201)-808-2700
World Library 12914 Haster Street, Garden Grove, CA 92640 (800) 443-0238

narrators. All in all, this is an entertaining, instructive program for children, which could have profited from

better artwork to accompany the stories.

The Multimedia Family Bible for Windows, a recent release from Candlelight Publishing, contains the full King James version of the Bible, along with a study guide and a large variety of screens sourced from both classical paintings and from hand-painted

illuminations (taken from the original 15th-century Gutenberg Bible). Also featured are color maps of the Holy Land, a gazetteer linked to the maps, a fully indexed word search function, and a Greek and Hebrew lexicon with more than 350,000 links to biblical words.

Publisher Info

Azeroth 3020 Issaquah-Pine Lake Rd., Suite 341, Issaquah, WA 98027 (206) 392-9941
Candlelight Publishing P.O. Box 5213, Mesa, AZ 85211 (800) 677-3045
Context Systems The Technology Center, 333 Byberry Rd., Hatboro, PA 19040 (215) 675-5000
Time Warner Interactive Group 3500 Olive Ave., Burbank, CA 91505 (818) 955-9999



With complete text from the Bible (King James version) as well as a study guide, Multimedia Family Bible for Windows offers a large number of classical paintings as well as illuminations sourced from the 15th-century Gutenberg Bible.

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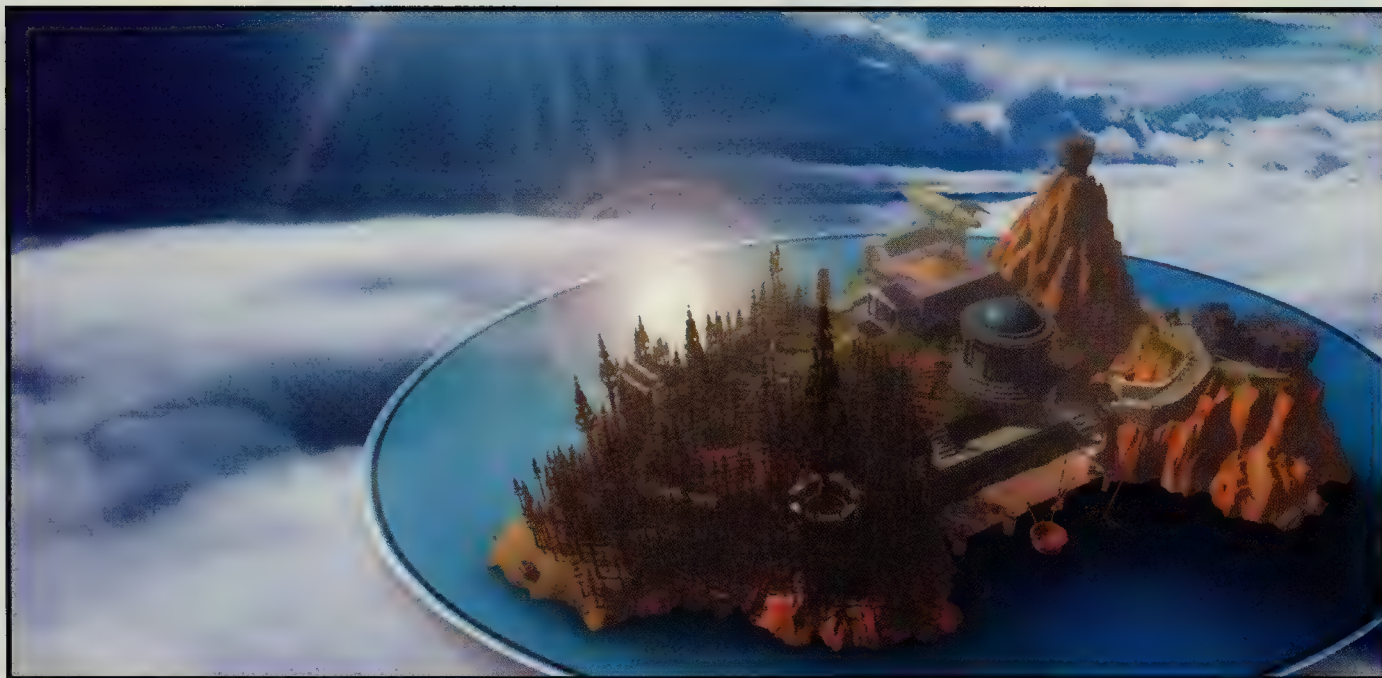
TITLE	FORMAT	RETAIL PRICE	OUR PRICE	TITLE	FORMAT	RETAIL PRICE	OUR PRICE
7th Guest	DOS	\$ 99.95	74.95	Media Clips: Island Designs	DOS/MPC/MAC	\$ 39.95	29.95
600 Days to Cocos Island	MAC	49.95	37.95	Media Clips: Jets & Props	DOS/MPC/MAC	59.95	44.95
Adventures of Pinocchio	DOS/MAC	69.00	52.95	Media Clips: Majestic Places	DOS/MPC/MAC	39.95	29.95
Adventures of Willy Beamish	DOS	69.95	52.95	Media Clips: Money!, Money!, Money!	DOS/MPC/MAC	39.95	29.95
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Arthur's Teacher Trouble	MPC/MAC	59.95	44.95	Mega Movie Guide	DOS	49.95	37.95
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Product Information Number 154



Secrets of Myst Island

You can hear the wind whistling through the treetops and the waves lapping on the shore. You can almost feel the sun beating down on your head, while caressing the cool, cut granite in your hand. Everything around you looks incredibly real, down to the textures of brick and marble, grass and tree bark. Wherever you turn, there is a new avenue to explore, a new puzzle to confront as you try to solve the mystery of this world's creation and the fate of its makers. For this immense, surreal universe is empty of human life. Haunting questions arise: What happened to Atrus, the ingenious inventor of books that transport you to new worlds? Was he betrayed by his wayward sons, Sirrus and Achenar? And what role did Atrus's wife Catherine play in the mystery?

Welcome to *Myst*, a groundbreaking exploration game from designers Rand and Robyn Miller, creators of popular

An Interview with the Designers Behind A Brilliant New Adventure

— — — — Steven Anzovin — — — —

CD-ROMs for children, including *Manhole* and *Cosmic Osmo*. *Myst* is the



Rand and Robyn Miller

Miller brothers' first project for adults, and marks a major advance in CD-ROM gaming. *Myst*'s rich 3-D graphics, ethereal soundtrack, huge environments, as well as its nonlinear exploration and puzzle-solving make it a must-have for Macintosh CD-ROM owners, even those who don't care much for games. (An MPC version will be available this spring.) In all likelihood, *Myst* is one of those titles that will actually sell CD-ROM hardware.

Seeking the secrets of the making of

Myst, we interviewed Rand and Robyn at Cyan, Inc., their production company in Spokane, Washington.

CDRT: What is *Myst*? Who is it for?

ROBYN: *Myst* is an adventure, a goal-oriented exploration. You are dropped into the middle of a mysterious island environment and you have no idea what you're

QuickTime movies, and so on — took about two years to make.

ROBYN: I really like Jules Verne a whole lot. As a matter of fact, I was reading Verne's *Mysterious Island* right at the very beginning of all this. The name *Myst* came from that. *Myst* does have a Jules Verne kind of feel to it. That's something that Rand and I both like -- the look of that old

Victorian-age technology.

When we sat down to actually do it, our ideas started to evolve quickly because we had to design the whole thing before we really began. With other products we just jumped right in and started creating funny little things, with no idea where we were going

environment is almost overpowering. How were those done?

ROBYN: We knew we wanted to keep things very rich when we first started. We actually thought we could draw the whole world by hand. [Laughs.] But we realized quickly that that was impossible. Still, we were worried that we couldn't get the organic effects for outdoor shots that we



supposed to do or what your goal is. You piece together the puzzle of *Myst* by wandering around, solving puzzles and picking up clues.

RAND: All our other CD-ROMs have been projects primarily for kids, but ones that adults could enjoy, too. This is our first game for grown-ups, but we wanted to keep the same feeling of exploration and wonder that we had in our kids' games. Our philosophy is: We make games that we like to play or our children like to play, and that's really it.

CDRT: How did you come up with the idea for *Myst*?

RAND: *Myst* started out a few years ago

when we were working on the *Cosmic Osmo* CD. We had an idea for an adventure game, something with a goal. It took about a month and a half to design *Myst*, just sitting around every day for a lot of hours and figuring out what was going to go here, what was going to go there, and working out the

story behind it. All the parts you actually see — the 3-D stuff, the score, the

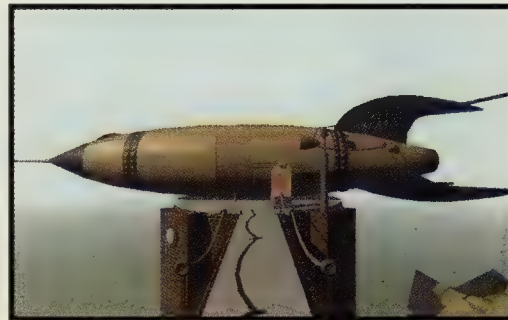
next. *Myst* took a lot more planning. I did lots of drawings and maps.

CDRT: Plainly you two collaborate closely. But which brother does what?

RAND: We both work on what the look is, what the puzzles will be, what is the layout of the island or the ancient forest or the whatever. Then Robyn develops the pictures and other pieces with Chuck Carter, who does fantastic modeling work, and Chris Brandkamp, who did the sound effects. Robyn delivers the pieces to me and Rich Watson, and we link them together, change the palettes, and do all the boring programming and technical stuff to get it working.



CDRT: *Myst*'s 3-D visuals wow everyone who sees the game. The richness of the visual



wanted. At the time, 3-D software didn't seem up to it. But we did a lot of testing, and we settled on a program called *Stratavision*. It gave us the ability to create the trees and other living things we wanted, at the level of realism we wanted.

All the reflections, all the shadows — you can save a lot of time by leaving those things out. But then the game would not have looked as rich. So we went ahead and took the extra time and rendered the reflections and refractions and shadows and textures.

RAND: We were working twenty-four hours a day rendering images all the time on lots of fast Macs.

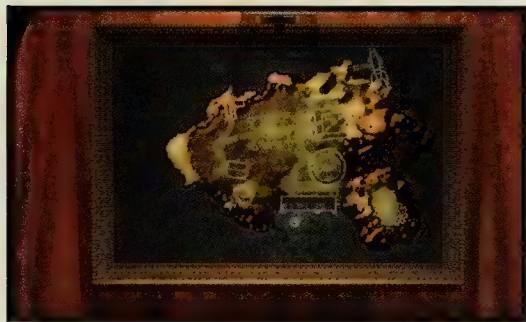
ROBYN: The images took an average of eight hours apiece to render. Some of them took as little as six hours; a lot of them took twenty-four or forty-eight hours.

CDRT: Give me an example of an image that took forty-eight hours to render.

ROBYN: The images of the Channelwood Age world took around twelve to sixteen hours apiece. The scenes up in the treetops took the longest because so many objects had to be shown at once. Some of those took forty-eight hours.

RAND: Those happened to be the ones we lost in a big disaster. We lost about a hundred images and had to do them over.

ROBYN: No, we don't want to talk about that. [Groans.] Anyway, that was a nightmare losing them, but I'll tell you something else that was really difficult: knowing what pictures to take to create



this entire world. You need to know exactly where to put those cameras. You don't necessarily set them in the physical place. It took us a while to get the feel of that.

CDRT: Yes, I noticed that as you move around, you end up looking where you need to look, but you don't always end up looking where you expect to look. The game guides the player rather than adhering strictly to the physical limitations of the human view.

ROBYN: Right. We started out with four square views — ninety degrees, ninety degrees, ninety degrees, right to the centerpoint. That just doesn't work in a realistic setting. Just like in cinematography: when you're filming someone in a bathroom, you have to take out a whole wall because the camera can't be in too small a space. But the viewer doesn't realize that consciously.

CDRT: How do you decide what kind of puzzles to include and whether a puzzle is too hard or too easy?

RAND: Our basis for puzzles was just what we had played in previous games. Our experiences with previous games probably stopped at Zork [laughs] because we

stopped having time at that point to play. But we knew we wanted them logical — not like in linear, *Zork*-type games where if you don't get the sandwich to the cyclops you lose the game. For *Myst*, the puzzle logic had to be rooted in the real world. For example, if you needed to power up a spaceship, you should be able

to follow power lines back to something that could supply power to the ship.

In fact, we were fairly insecure after the puzzles were done. At that point we did a whole role-playing scenario. We took people and said, "You're standing on the dock. Here's what you see." Then they'd tell us

what they wanted to do. We learned an awful lot about which puzzles were too hard and which were too easy.

We realized that since there was no dying, the only thing that extended game play was the complexity of the puzzles and the sheer size of the environment. The puzzles had to be fairly complex, but we didn't want some little puzzle stuck in the middle someplace that you had to solve before you could go on. Of course, there are some unique places that have puzzles you do have to solve, like the clocktower [on *Myst Island*].

But you aren't stuck there.

ROBYN: The more logical sense the puzzles make, the better we like it. We like it when players get into the world and act as if they are really there.

RAND: If someone is having trouble, we say "What would you do if you were really there?" and then they can figure it out.

CDRT: You've both said elsewhere that one of the reasons working with your brother is great is because you can yell at each other and not get insulted. Does the rivalry between the brothers in *Myst* have any autobiographical aspects?

ROBYN: [Laughs.] We were waiting for this one.

RAND: It really doesn't. Except that Robyn is totally evil.

ROBYN: I'm not!

RAND: Anyway, there's no autobiographical content, right, Robyn?

ROBYN: No -- well, on some subconscious level, maybe. [Laughs.]

CDRT: Well, I thought there might be some Oedipal dimension there -- something grad students could discuss in a dissertation. How would you feel about that? *Myst* might become the first computer game to be deconstructed by French semioticians.

RAND: It's not meant to be some deep literary statement.

ROBYN: When we started, we wanted to make a statement, but the project was so big and took so much effort that we didn't have the energy or time to put much into that part of it. *Myst* was so different and so much bigger than anything we had ever



done. So finally we decided to just make a neat world, a neat adventure, and say important things another time.

CDRT: What are you going to do next?

ROBYN: There really is another *Myst* because there has to be. There's a whole prehistory, more than we could fit into this game. Some of the books in the library hint at it. You can look forward to more *Myst* in the future.

Myst Publisher Info

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A Taste for All Seasons

Elizabeth A. McDonald

Cookbooks come in an astounding variety of cuisines, ethnicities, and degrees of silliness, and their only common denominator is a vice we all share — food. Thousands of cookbooks are published each year, making them one of the strongest categories in book publishing.

But a cookbook can't *talk* to you. It can't *show* you how to crush herbs. It can't search for just the right recipe or print a shopping list. It is, plainly, limited by its medium.

But in the new world of multimedia, cookbooks can combine some of the best features of your own recipe collection with a television cooking show, making them ideal interactive products. Three such CD-ROM cookbooks are now available: *Better Homes & Gardens Healthy Cooking CD Cookbook*, *The Lifestyles of the Rich & Famous Cookbook*, and *John Schumacher's New Prague Hotel Cookbook*.

Here's a hands-on look at each one.

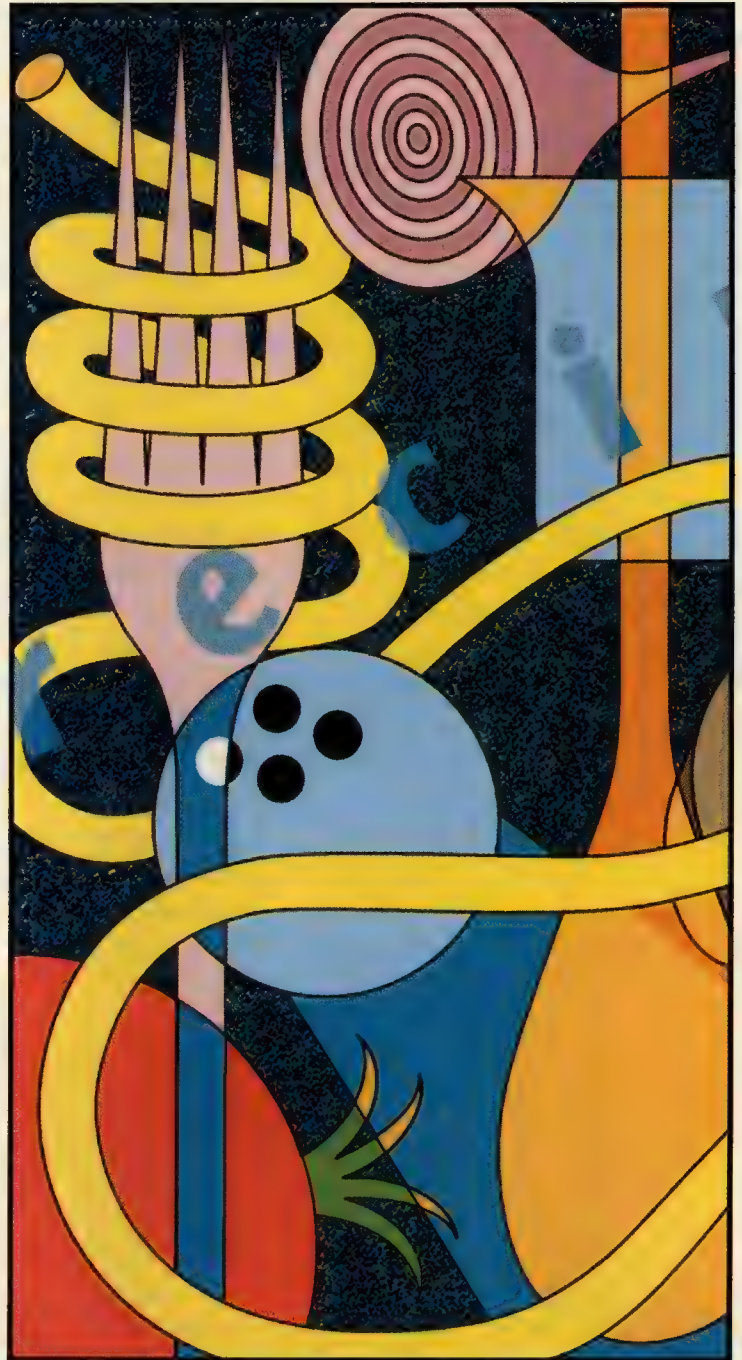
Better Homes & Gardens Healthy Cooking CD Cookbook

The most comprehensive product of the three, *Healthy Cooking* offers various ways to find and access over 400 recipes. From a straightforward main screen, you can access



a variety of utilities, such as the food index of recipe categories; a general index for entries sorted alphabetically, by

calorie count, nutritional information, or preparation time; and a slideshow with color photos for each recipe. Using both text and narration, help functions offer descriptions of cooking utensils, and a chart of the food pyramid (particularly useful for those of us indoctrinated years ago with the four basic food groups). The disc contains optional music selections with American and ethnic themes (unfortunately, the music clips are not first-rate in quality and, on my



Cookbooks on CD-ROM can offer so much more than their traditional paper counterparts. But do they all deliver?



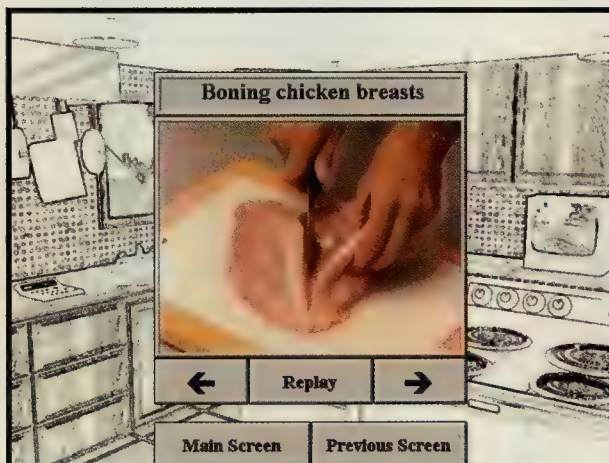
cookbook. To demonstrate specific procedures (deveining shrimp or boning a chicken breast) or illustrate visual reference points (beating eggs to soft or stiff peaks), more than 80 videos quickly and visually explain the matters of food preparation more clearly than still pictures or text ever could.

The most practical feature for everyday cooking is the What's For Dinner option. You can enter ingredients and nutritional information requirements, and get recipes that match up the two. If you find yourself staring into the fridge at chicken and green peppers at dinner time, a few quick keystrokes will provide recipe suggestions such as Chicken a la King, Chicken Country Captain, and Paella. Anyone who has ever racked his or her brain trying to plan a meal around the food on hand will find this feature indispensable. Another valuable item is a calorie tally for more than 450 common food items.

The heart and soul of any cookbook, no matter how it's organized or packaged, are the recipes themselves. Each recipe in *Healthy Cooking* features a color photograph and concise directions for preparation. Recipes can be easily

system, ran intermittently during playback).

The disc's video clips take full advantage of the benefits of a multimedia

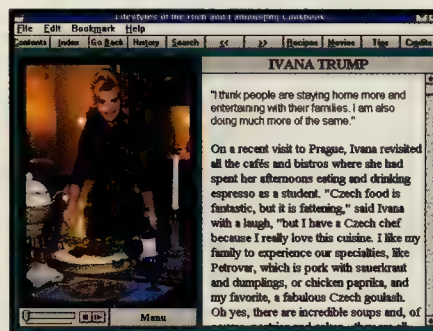


printed for use in the kitchen, as can a shopping list of necessary ingredients, adjustable for up to 50 servings for any recipe. Each recipe offers a quick reference list of the videos pertinent to its preparation.

Healthy Cooking offers a wide selection of traditional and ethnic recipes, and although chocoholics may be disappointed, the cookbook's appeal is not limited to dieters. Its general health-conscious approach demonstrates that "real food" doesn't have to contain overdoses of fat, sodium, or cholesterol.

The Lifestyles of The Rich & Famous Cookbook

If *Healthy Cooking* is the dog-eared basic reference on the shelf, *The Lifestyles of The Rich & Famous Cookbook*, from Compton's NewMedia, is the glossy, coffee-table cookbook. With this CD-ROM, you can recreate the menu from Elizabeth Taylor and Larry Fortensky's wedding reception, or check out Randy Travis' favorite down-home meal. Robin Leach brings his own inimitable style to this compilation of



celebrity soirees and culinary favorites.

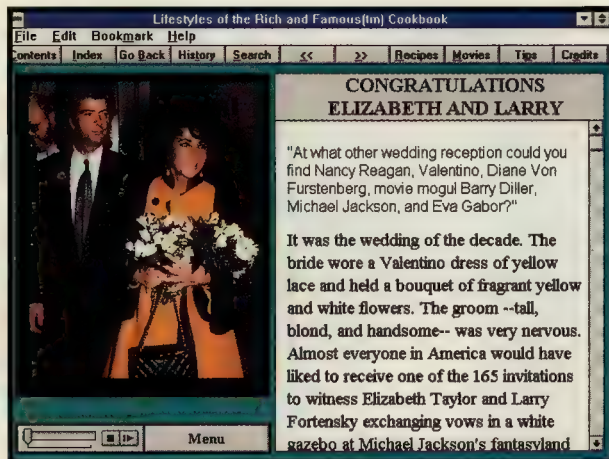
Leach's distinctive voice-overs introduce each chapter of the

book, including Extravagant Affairs, Casual Entertaining, Relaxing At Home, and Favorite Recipes of the Rich & Famous. Each section includes a description of the featured event or a profile of the celebrity, and video or photos if available. The Extravagant Affairs section, for example, reveals that Liz and Larry's nuptial feast included smoked salmon, lobster salad on artichokes, fettucine with seafood, chicken with morel sauce, and chocolate tulips.



In her own version of casual entertaining, Ivana Trump invites us into her \$18 million Connecticut country estate

for a "Girlfriend's Lunch" of Moroccan grilled salmon, foie gras in phyllo, and poached pears. At his "country" home, Randy Travis reveals that although he does more eating than cooking, his favorite recipes include fried chicken, field peas, squash casserole, southern cornbread, and



old-fashioned buttermilk pie.

In the Favorite Recipes collection, you can find such varied luminaries as Jerry Lewis (roasted snapper), Peter Max (Maui onion soup), Johnny Carson (whitefish), and supermodel Elle Macpherson (smoked salmon bruschetta).

The recipes in *Rich & Famous* range from simple meals to the height of haute cuisine, but are all explained clearly. Each recipe includes a summary of ingredients, a color photograph (for some), preparation instructions, and a link to any related video or sound clips of the event or profile. Recipes can be printed easily, and include notes on how to find or prepare unusual or exotic ingredients, such as *confit of goose for the terrine of foie gras*.

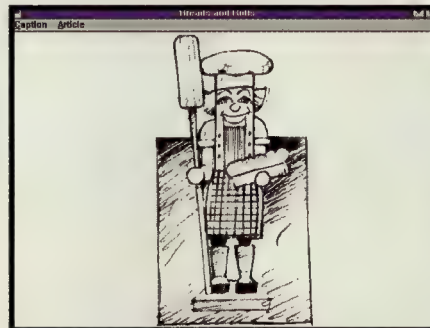
This cookbook offers a unique culinary approach and is genuinely entertaining, but suffers from some minor problems. The installation is buggy (a faulty path definition creates a useless series of files), and the interface — *Lifestyles* uses Multimedia Viewer — is sometimes clunky. But who can resist Robin Leach's "champagne wishes and caviar dreams," especially when they're hungry?

John Schumacher's New Prague Hotel Cookbook

This Quanta Press title reveals almost as much about Chef John Schumacher as it does about his recipes. The introduction sequence discusses his childhood on a Minnesota farm, examines his struggles with dyslexia, offers an emotional description of the visit of Czechoslovakian national hero Alexander Dubcek, and covers Schumacher's professional progress as a chef. The recipes served at his inn in New Prague, Minnesota, include a variety of Eastern European dishes and traditional American heartland fare, such as wienerschnitzel, grilled wild turkey, knedliky (potato

dumplings), and cinnamon rolls.

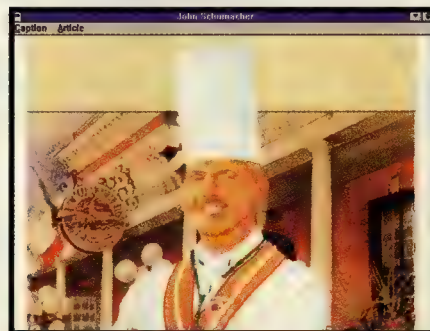
The cookbook uses a generic database front-end, an interface familiar to users of other Quanta products. The



main screen offers options of a title finder, picture finder, sound finder, and picture tour. Camera icons indicate related

illustrations, mostly cartoon-style line drawings, very few of which have any instructive purpose. The 23 sound clips range from "John Schumacher on courage" to "Cooking is an art form" to "Selecting fresh vegetables." His suggestions of how to publish a cookbook boil down to this: Collect some recipes, get someone to do the graphics, get your wife or friend to read and edit it, get someone to print it, and sell it. Hardly novel.

The unusual collection of recipes and the pervasiveness of the chef's personality make this a very interesting book, but it's not much of a multimedia product. Featuring four color photographs and no video, *New Prague Hotel Cookbook* is



primarily a book translated directly to computer. CD-ROM users have growing expectations about what the

medium has to offer, and this product fails to measure up to that standard.

Multimedia cookbooks do not pose any threat to the book publisher's market — yet. But with the obvious potential of these kinds of interactive products, every home may someday have a countertop PC bringing Julia and the Frug into the kitchen.

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The Count Goes Interactive

Like Sherlock Holmes, Superman, and Mickey Mouse, Dracula endures. He has transformed from an obscure eastern European tyrant to a character in a Victorian novel, and has now emerged as a cultural icon, recognizable to all. Books, television, and film have seen many incarnations of the Carpathian Count with a yearning for fair damsels and a thirst for blood. Bela Lugosi, Christopher Lee, Jack Palance, Frank Langella, Louis Jordan, and Gary Oldman have all taken a stab at portraying Dracula, and each has used a subtly different approach. Some find him savage, others see him as sexy,

Dracula Unleashed: Game or Movie?

— T. Liam McDonald —

while others perceive him as tragic and pathetic. Whatever the interpretation, however, fans keep coming back for more.

The story of Dracula has now taken a new turn with the release of *Dracula*

Unleashed, from Viacom New Media (formerly ICOM Simulations). While there have been Dracula games before, there has never been one quite like this. Its creators bill it as "An Interactive Horror Movie," to distance the product from the traditional computer-game niche, and it does indeed seem to straddle the fence between game and television. Like ICOM's *Sherlock Holmes Consulting Detective* series, it uses extensive video scenes to tell its story. Yet *Dracula Unleashed* is a more complex and replayable game than any in that series.

Since Bram Stoker's original story of *Dracula* is so well known, producer



Alexander's investigation draws him into a web of terror.

David Marsh and the ICOM design team decided not to rehash it, but rather to pick up where it left off. An original story was written by Tony Sherman, with a script by two veteran creators of horror games: Andrew Greenberg and William Bridges of White Wolf Productions. The story begins ten years after the events in *Dracula*, and centers around the character of Alexander Morris. Alexander is the brother of Quincy Morris, the Texan who killed Dracula in the original novel. Quincy has been mysteriously and brutally murdered, and

Alexander has come to London from Texas to investigate the murder.

The mysterious Father Janos has intimated that all is not well in England, and Alexander begins snooping around. A series of bizarre and horrific incidents in London coincides with Alexander's visit, including strange decapitation murders

and the finding of corpses drained of all their blood. Shortly after Alexander's arrival, his fiancée's father dies with a look of horror etched on his face, and Alexander begins having strange dreams. He soon learns that the Count is very much *alive*.

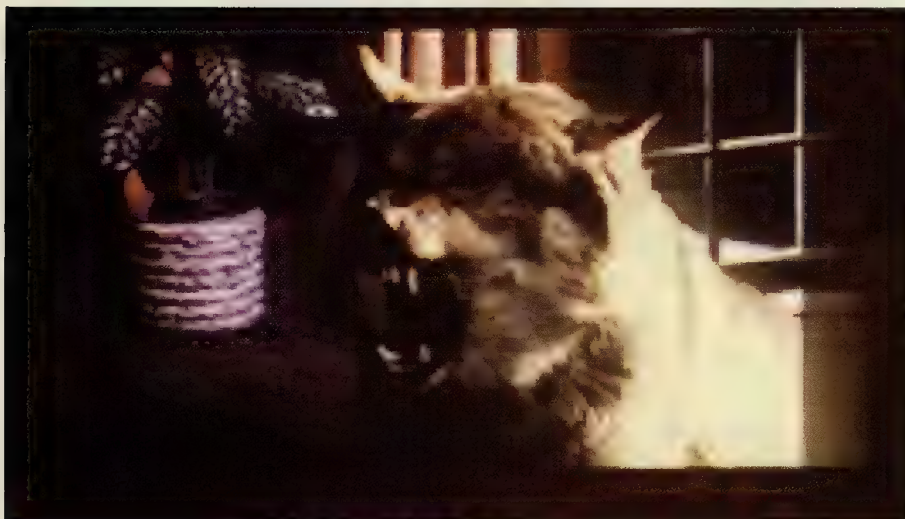
Dracula Unleashed is told entirely with video, which was shot over a six-week period in Minneapolis. In all, there's more than 90 minutes of video, with 43 actors in more than 150 different scenes, and almost two dozen sets ranging from single rooms to



As events grow more grisly, alarmed clergymen get more involved.

cemeteries, mausoleums, and portions of London streets. The producers even rented a large wolf. On the whole, the production quality falls somewhere between that of a low-budget soap opera and an episode of the original *Dark Shadows*. Interior sets are handsome but, of necessity, small. Acting ranges from good to hammy, with the strongest roles played by supporting characters. The actor playing Our Hero is unfortunately somewhat bland and wooden. On average, it's about what you'd get in a community-theater stage play.

The structure of this game is wholly unlike that of ICOM's Holmes series. Instead of rummaging around England



The 120-pound wolf rented by the producers turned out to be a docile pet. A little retraining was in order before the shoot.



Dracula Unleashed was produced much like any feature-length film. This sequence shows corpse positioning, last-minute touch up, and a final take.

for video "clues" to solve the case, you pick up a story and follow it through. Additionally, multiple paths that branch to different endings offer decent replay value.

The icon-based interface comes with handsome period background drawings for each location. Video plays at 15 frames-per-second in a small window. Since time is important, there's a watch icon for keeping track of or speeding up time. As in traditional role-playing games, an inventory is provided, and this is used throughout by Alexander. He can't pick things up, but in certain scenes characters give him items, which then appear in inventory. Each item has an audio description, and can either be kept in inventory or "in hand." This is important, as some

scenes are triggered only when a certain item is in hand.

After the introductory scene, Alexander can travel to any of several locations. To travel, he simply gets into a waiting carriage, and you click on the desired location in his directory. At each locale, a video clip moves the story along. There are several paths to follow, and some lead to the death of Alexander or of supporting characters. Timing is often tricky and sometimes frustrating, and certain scenes must be stumbled upon at just the right moment. The story builds slowly, as did the original novel, with Dracula kept off stage for quite a long time.

Dracula Unleashed is rather sedate, and not particularly action-oriented. It really is a new and different kind of

gaming experience, but as such is still very ragged around the edges. Like many video-based computergames, the passivity tends to make you feel as though you're watching television more than playing a game.

Is the time of interactive television upon us? In a way, yes; and *Dracula Unleashed* is interactive TV in its nascent stage, still feeling its way along and stumbling at times. In the end, though, it's an entertaining game, with some effective scares and a story interesting enough to keep things moving.

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REVIEWS

REFERENCE

20th Century Video Almanac

DOS/Win/Mac

The Software Toolworks

\$99.50 (*Best of the Century*)

\$29.95 each (*The Century in*

Depth — four separate discs)

or \$79.95 (all four discs)

If you subscribe to the old saying that “a picture is worth a thousand words,” The Software Toolworks’ *20th Century Video Almanac: Best of the Century* can make an information millionaire out of anyone with a CD-ROM drive. This fascinating overview of historical happenings contains more than 2000 articles and 100 full-motion video clips covering the events that have shaped our world for the last nine decades.

Putting together such a wide ranging package is a challenge in itself, but the authors of *Video Almanac* took on another heavy burden by opting for a strictly DOS-based implementation rather than writing for the Windows-based MPC environment. The results are surprisingly satisfying. The frame-display rate of video clips isn’t quite up to what we’ve come to expect from Video for Windows, but is quite adequate, with only occasional traces of frame stutter.

Even at “commemorative” postage-stamp sizes, there’s no denying the evocative power of video. Chills ran down my spine as I watched key excerpts from Martin Luther King Jr.’s “I Have a Dream”

speech, my kids smiled at the antics of the Keystone Cops, and I looked on in horror as the Challenger space shuttle exploded in mid-flight.

The quality of the photographs and video is generally very good, but there are occasional duds; Jimmy Hoffa’s photo looks like it was taken on a moonless midnight, and the audio volume level of voice-overs that accompany some video clips are wildly variable. A little more attention to the production process would have eliminated such glitches.

The interface is clean and simple to use. The main screen offers four paths to viewing the subject matter at hand. “Timeline” presents all of the *Almanac*’s photos and videos in date sequence. A scrolling field of filmstrip size photos occupies the bottom of the screen. A large blowup of the currently selected photo

occupies center screen. A click of the mouse allows the user to read associated text articles, or move along the timeline. Articles that include video clips are marked with a special symbol. “On This Day” serves up events and accompanying articles that occurred today (according to your computer’s internal clock), and a calendar that lets one browse past events for other days of the year. “Where in the World” segregates events and articles by country.

Many users will end up spending much of their time in “The Library,” which groups articles by general category: Politics, War and Disasters, Science and

Technology, People, Sports, and Grab Bag. The Library also offers keyword and subject searches of articles and a section that groups all available video clips together for browsing.

20th Century Video Almanac is a thoroughly satisfying romp through history, but the limited navigation capabilities of the interface tend to become frustrating after a short while. A flexible bookmark option would have been a most welcome addition to the simple “go back” a step, or “go to main menu”



options. I had to take care to type very slowly when making entries for keyword or subject searches. Attacking the keyboard at any rate approaching normal typing speed invariably results in lost characters.

Compendiums that attempt to cover a lot of ground are rarely perfect, and *20th Century Video Almanac* is no exception to that rule. According to one’s tastes and interests, there are bound to be disagreements revolving around the relevancy of included items and omissions. Still, it’s hard to fathom why there’s an article dealing with the discovery of the wreck of the Titanic, but no coverage of the historic sinking itself. Recent lawbreakers

are adequately represented, but there's nary a mention of the 1924 "crime of the century" murder trial of Leopold and Loeb.

There are also occasional errors in sequence; after a search on "Watergate," President Gerald Ford is presented pardoning Richard Nixon before he resigns. One can only wonder why Tom Cruise, who is mentioned only incidentally in an article, rates a slot in the subject index while there is no listing for the general topics of "crime" or "criminals."

The Software Toolworks includes a coupon/order form for a set of four "in-depth" discs (Politics, People, Science, and Sports) that are optional add-ons for *Best of the Century*. From examination of the marketing materials, it's easy to come to the mistaken conclusion that the extra discs widen the scope of *20th Century Video Almanac*. Only after installation

does it become obvious that they simply add more full-motion video clips to existing articles in the base package. The "in-depth" discs are not available at retail outlets, but are priced reasonably. Single discs, which add over 60 new video clips each, are \$30, and the full set of four is available for \$80.

20th Century Video Almanac: Best of the Century is an excellent vehicle to pique the historical interest of young and old alike. A tip of the *CD-ROM Today* hat goes to Software Toolworks for taking on the Herculean task of assembling a fairly comprehensive, pleasant, and nostalgic look at the events that have brought us to the brink of our next hundred years.

—Arlan R. Levitan

Software Toolworks, 60 Leveroni Ct., Novato, CA 94949
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Fractal Ecstasy And FracTools III

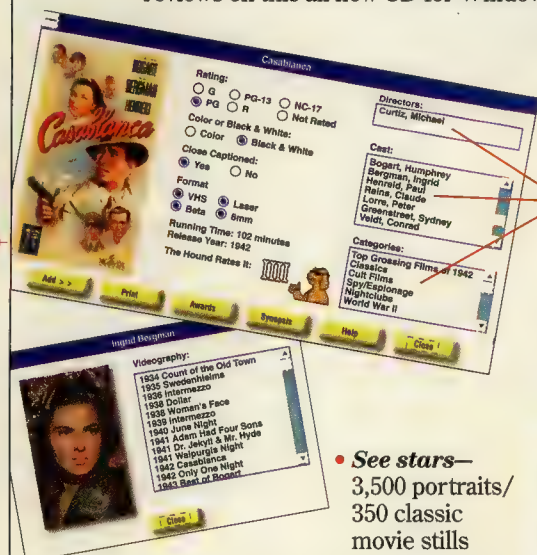
Fractal Ecstasy
MPC
Deep River Publishing
\$49.95

FracTools III
DOS
Quanta Press
\$79.95

Geometry was invented to describe the shapes and objects of the real world, but you'll rarely find pure geometric shapes like triangles, cubes, and spheres in nature. Two recent CD-ROM releases, *Fractal Ecstasy* and *FracTools III* explore fractals, mathematical objects of infinite detail and complexity. Fractals create

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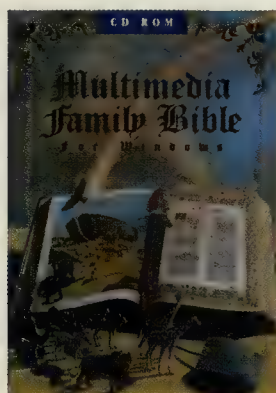
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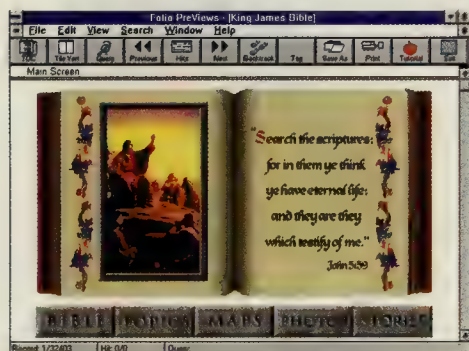
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REVIEWS / REFERENCE

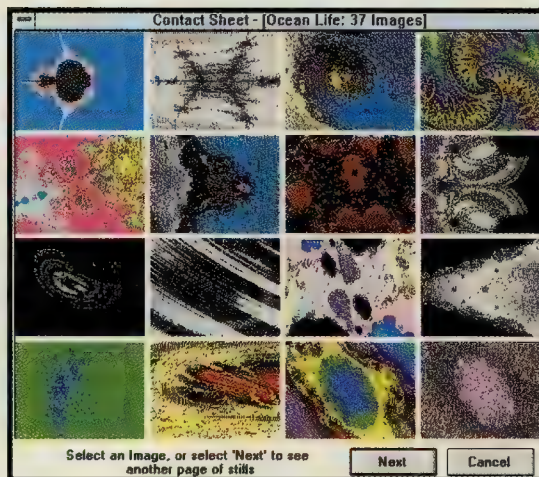
images with rich, organic shapes that sometime suggest plants, clouds, or other features of nature, such as winding coastlines and craggy mountains.

As models for natural shapes and processes, fractals have tremendous scientific and mathematical importance, but *Fractal Ecstasy* and *FracTools III* are simply clever tools that let you make some nifty-looking pictures. Make no mistake, the pictures are superb, and the packages include some well-designed tools for working with them. However, both publishers seem to have missed a chance to move beyond surface appearances.

Fractal Ecstasy, from Deep River Publishing, offers more than 1100 images

The Video for Windows movies zoom in on some of the most interesting features of each fractal shape. A continuous fractal zoom can be truly breathtaking on film or videotape, revealing more and more dramatic features on an ever shrinking scale, but *Fractal Ecstasy's* clips are short on detail. With a low 160 x 120 pixel resolution, they're visually disappointing, but still fairly useful as a way to locate features for further investigation. Pausing the movie and clicking the Creator button regenerates the paused video frame with much greater detail, which is then available for tinkering and experimentation in *Fractal Creator*.

The centerpiece of *Fractools III*



Fractal Ecstasy

showing the features of the Mandelbrot Set and 29 other fractal shapes. It also includes 39 Video for Windows clips and a program, *Fractal Creator*, all wrapped in a well-integrated Windows interface. From the central gallery window, which shows a snapshot of each type of fractal, you can pop up a "contact sheet" window to browse a group of hi-res images, start a Video for Windows movie, or load *Fractal Creator* to get new images based on a fractal type. The image viewer window features the same degree of integration: the button that starts up *Fractal Creator* automatically loads the correct parameters to recreate the displayed image.

(developed by Bourbaki, Inc., and published by Quanta Press) is a program for computing fractal images, and it's a more powerful tool than *Fractal Creator*. The single-key AutoZOOM function speeds up interactive exploration, as does a progressive calculation scheme: *Fractools III* displays a blocky, lo-res image of the fractal first, adding detail and increasing resolution in further steps, and you can often tell whether an image

will be interesting long before every last detail has been computed. Completed images can be exported as BMP, PCX, or GIF files for use in other programs.

Fractools III also includes nearly a thousand pre-computed hi-res images, with a handy viewer for browsing through small "thumbnail" versions and displaying the full-sized pictures. Other utilities in the package can create slideshows and kaleidoscopic effects based on fractal images, but the programs lack the tight integration found in *Fractal Ecstasy*. You have to quit one program to run another, remembering and re-entering the filename to use the same image again.

Getting *Fractools III* up and running

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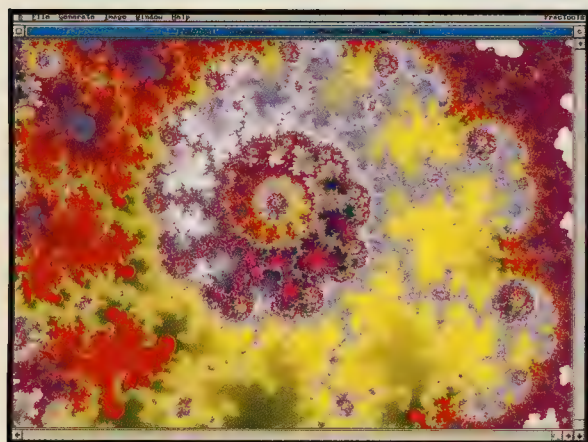
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Product Information Number 157



FracTools III

couldn't be much easier: the programs are designed to run directly from the CD-ROM, with no installation required. The programs use their own DOS graphical interface, which supports a wide range of Super VGA video cards, so Windows isn't needed either.

Generating a fractal image is pretty

simple in principle. You repeat a mathematical calculation a large number of times, using the result of one step as the input to the next. Each pixel's colors are based on the final result, and the spectacular patterns come from changing the function's parameters slightly as you go from pixel to pixel. The procedure isn't

difficult to understand, but it's quite a chore to actually compute the images, which is why fractals were born in the computer age, and why dedicated fractal fans commandeer the fastest CPUs they can find. Bourbaki claims that *FracTools III* runs on a basic IBM PC with 512KB of RAM, while Deep River's minimum is a 12-MHz 386SX with 2MB of RAM. Nonetheless, for serious fun with either, you'll want a much faster system —

preferably a 486DX, but at least a fast 386 with a math coprocessor.

Frankly, if you're new to fractals, there might be a better place to start than either of these discs. *Fractint* is widely available on-line, totally free except for download costs, and offers more than 70 different fractal functions, compared to the 30 in *Fractal Ecstasy* and only 14 in *FracTools III*. It also includes brief explanations of the mathematics behind each type of fractal, something the CD-ROMs sorely lack. If you're still crazy about fractals after seeing *Fractint*, then *Fractal Ecstasy* and *FracTools III* are great sources for generating more amazing fractal pictures.

— Tim Victor

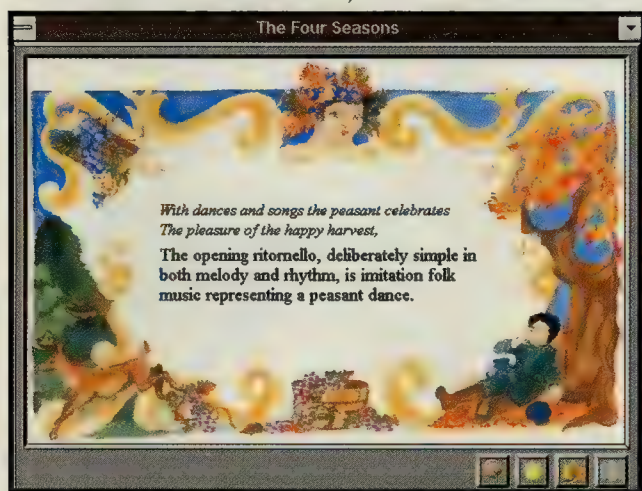
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Vivaldi: The Four Seasons

MPC
Ebook
\$24.95

As a musical innovator, Antonio Vivaldi would surely have appreciated having his best-known work showcased on the pioneering CD-ROM format. The Venetian composer (1678-1741) searched constantly for fresh ways to orchestrate music. Vivaldi's *The Four Seasons*, a



quartet of concertos for violin, strings, and basso continuo, is one of the most frequently played compositions in the Western world. Its ability to evoke emotion makes it a wonderfully approachable piece of work, and hence a sensible choice for "edutainment" software.

Ebook chose its material with great care. The graphic presentation is one of calm elegance. Explanatory texts are accompanied by photographs of fine paintings and drawings of the period. Colors are pure, and graphics are highly detailed. Musical terms are explained clearly and simply, and without any hint of pomposity or condescension. And the audio is pristine.

You enter the program through a simple screen offering four choices: Illustrative, Interpretive, Informative, and Themes. These icons are accessible at any

time through a nine-button toolbar, which hides at the top of the screen. The bar also offers search, bookmark, directional, history, play, and pause commands.

In the Illustrative section, a recording of the composition by The Budapest Strings plays while a series of outdoor photographs captures the mood of the music. Painted borders in the natural style of 18th-century classicism (in the Interpretative section) frame an explanation of the music's meaning. On each score Vivaldi had written a descriptive

sonnet. They are reproduced here — a nice touch.

Pages in the Informative section sit on the screen like a beautiful picture book, with lots of white space to offset the text and graphics. There are essays about Vivaldi's life and times, musical forms, instruments, and a glossary. More detailed

definitions lie behind highlighted text. I did miss not having musical examples to accompany the explanations, as Voyager/Microsoft programs do so well. Expert use of the Ebook search function helps matters, but it's an awkward process.

Analysis continues in the Themes section, where players can follow the written score and listen to the melody played by the solo violin, the piano, and full orchestra. A close reading here tempts anyone to run straight to the piano. Though the program suffers a little from a lack of integration between some of its components, you'd have to look far to find as good an introduction to this popular classical work.

— Anne Gregor

Ebook, 32970 Alvarado-Niles Rd., Suite 704,
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Time Man of the Year

Compact Publishing, Inc.
DOS/Windows
\$39.95

Through its Man of the Year selections, *Time Magazine* has been chronicling those people who have shaped our history for the past 66 years. This CD-ROM, like its hardcopy counterpart, offers a revealing historical glimpse of each year by profiling the century's most influential figures.

The trouble is, there's just not enough multimedia here to justify calling this title a multimedia reference work. *Time Man of the Year* boils down to 66 text-only biographies and 11 in-depth, multimedia profiles. Though it succeeds in that narrow focus, the result is not enough to warrant a full recommendation.

On the positive side, it's quite easy to move around in this program. The main menu offers three choices: Man of the Year articles, in-depth portraits, and the content of the 1992 issues of *Time*. The top menu, accessible at any time, has the typical reference functions, including search for keywords, browse for videos and photographs, a bookmark, and a notepad.

The 66 text-only articles are lifted straight from the magazine's annual Man of the Year articles, from Charles Lindbergh in 1927 to Bill Clinton in 1992. Aside from displaying the magazine covers, there are no photos, videos, or sound accompaniments.

Videos and photographs are limited to the 11 portraits, which contain excellent and exhaustive articles on a handful of the most important figures from those 66 years — Churchill, Einstein, Ford, Hitler, Kennedy, King, Nixon, Roosevelt, and Stalin.

It's only in this section that *Man of the Year* offers a multimedia menu. A

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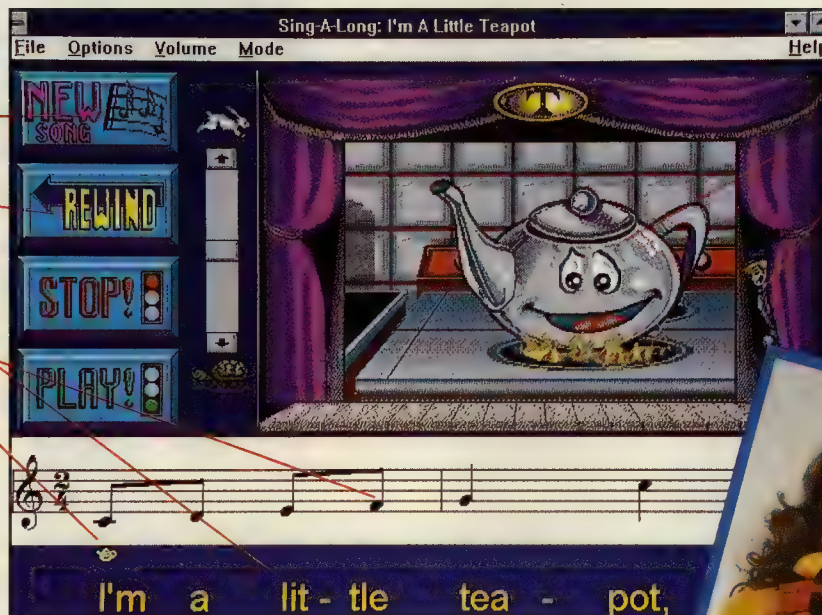
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CDRTW

table of contents for each entry includes a photo biography, a video clip or two, and various related topics connected from within the text.

The quality of the 16 video sequences and the hundred or so photographs is



barely adequate. Some of the videos are very grainy and some, such as the film of an atomic bomb test, are almost indiscernible.

The 1992 magazine issues are interesting enough, providing an informative look back at the year's events. But here again, it's all text. So there's really little need for this inclusion — I'd much rather thumb through back issues of the magazine.

Time Man of the Year succeeds in its somewhat limited goal of chronicling some of the people who have dominated the 20th century, but unless you're particularly interested in the magazine itself, there are lots of other CD-ROMs that do this...and much more.

— Lee Buchanan

Compact Publishing, Inc., 5141 MacArthur Blvd.,
Washington, D.C. 20016 (800) 964-1518

♦ ♦ ♦ ♦ ♦

UFO

Windows

Software Marketing Corp.

\$49.95

To many, UFO is an acronym that has come to define an entire subculture of space nuts and wackos. In reality, the

letters that stand for "Unidentified Flying Object" mean exactly that: a flying object that we cannot identify.

Now, the Software Marketing Corporation has marshalled an occasionally impressive body of UFO lore onto CD-ROM. However, gaping holes in the history of UFO contact and a slapdash quality undermine what could have been a wonderful reference tool to the strange world of alien sightings and contacts.

UFO is a collection of snapshots, video clips, and brief descriptions of UFOs and alien encounters. As such, the material ranges from good to dreadful. There are some quite clear photos of UFOs and, yes, more than a few look like hubcaps. But, more often than not, pictures are poorly reproduced, some being culled from newspaper clippings or other secondary sources. The video is standard UFO stuff taken on the fly: jerky and fuzzy. Unfortunately, the hardware limitations of video-frame rates and poor source material make the images even more unclear.

All material is searchable and accessible through a simple engine. Parameters for date, location, type of encounter (Sighting, Sighting with Environmental Impact, or Encounter with Occupants) can be set for searches. More specific parameters can be set for such elements as Abduction, Photographic Evidence, Psychic Phenomena, Cattle Mutilations, and others.

Searches yield a four-window display on each incident. A map covered in a flurry of red dots marking UFO encounters is less than useful, while an information window lists date, location, and other mundane facts. If a photo or video is available, it will also appear. Where one



would expect some detailed facts about the encounter in question, however, there isn't all that much. The descriptive passages are littered with typos and bad grammar, and the stories they tell ask more questions than they answer. There are some interesting stories and information here, going back all the way to Ezekiel and his "wheel of fire," but there is simply not enough.

And while *UFO* claims to be complete, it lacks several famous episodes in the history of alien encounters, such as the Roswell incident, or the alleged abductions of Whitley Streiber or Travis Walton. One has to wonder what else is missing. The program is slow and the interface not very graceful. While there is some merit to *UFO* — a variety of good photos and stories — it is not the accomplished, definitive product it could have been.

— T. Liam McDonald

Software Marketing Corp., 9830 S. 51st St., Bldg. A-131,
Phoenix, AZ 85044 (602) 893-3377

♦ ♦ ♦ ♦ ♦

Sure!MAPS 2.0

DOS/Windows

Horizons Technology

\$199.00

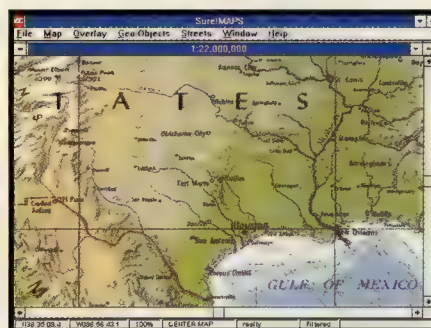
Sure!MAPS 2.0 is a stunning piece of work. An amalgamation of maps from

the U.S. Geologic Survey, SPOT satellite imagery and Etak street-level maps, it should satisfy any of us who hold that a good map is a work of art.

When you start up, you'll see a map centered on Dallas, Texas. This is a raster map, as opposed to a bitmapped image, and the effect is to let you scroll smoothly in any direction without having to wait long for screen updates.

However, you should beware the slider bars and navigate by clicks on the up and down arrows. Move the slider bar up about one inch and you'll find yourself looking at the wild lake country of northern Canada. Move it two or three inches south and you'll get a look at the topography of Antarctica.

You'll also notice a change in perspective. The map centering on Dallas



is as flat as any paper map. Move well to the north, and it seems your angle of view has lifted from 90 to 45 degrees, as though you're still above Dallas but have shifted your gaze northward.

But *Sure!MAPS 2.0* offers much more than accurate mapping. It is also a database, where entries may be keyed to specific points of latitude and longitude. As an example, you could create an icon that looks like a small "m," zoom to street

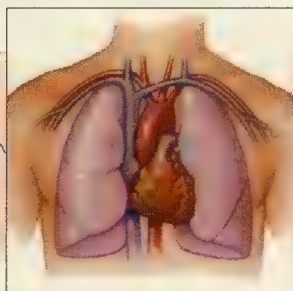
level and place copies of it at strategic points. Then, with the map, you'd always know the location of the nearest McDonald's.

For those of a more serious bent, *Sure!MAPS 2.0* addresses itself to those who own or must deal with properties scattered over a state, the country, or the world. The key to operations of this sort lie in the Etak street level maps only one of which — the Dallas area — is included. For other cities, Horizon publishes maps of more than 60 U.S. cities on CD-ROM, and these add-on modules can be used as overlays to the main map.

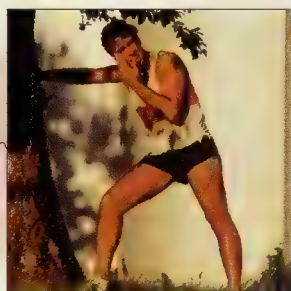
Though the initial maps are a joy to behold, things change as you zoom in on an area. You begin at 100 percent magnification and increasing this to only 150 percent creates an annoying

GET TO THE HEART OF THE MATTER

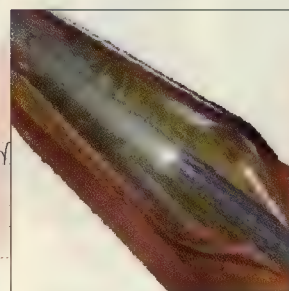
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fuzziness. Zoom in to 400 percent, and you'll see that the reason for this is "fat bits," a kind of computer magnification not much in favor these days. Perhaps it's related to the raster imagery, but it is a failing in an otherwise very good and useful program.

— Ervin Bobo

Horizons Technology, 3990 Ruffin Rd.,
San Diego, CA 92123

♦ ♦ ♦ ♦ ♦

Movie Select

MPC/Mac

Paramount Interactive

\$59.95

For some odd reason, *Movie Select* — one of the latest home movie companions on CD-ROM — bills itself as "The Intelligent Guide to Over 44,000 Videos." It's not the amount of videos covered



that's in doubt, but the use of the word "intelligent." *Movie Select* is anything but.

A movie guide produced by Paramount Interactive is a little bit like a critique of Bill Clinton's presidency written by Hillary. This lack of objectivity becomes abundantly clear when one-fourth of the program is dedicated to video previews of a dozen current movies and — surprise! — they're all Paramount films.

The remainder of *Movie Select* is dedicated to a very large listing of films

with short entries on each. The entries can be accessed in one of three ways. The most unique is the "Movie Select Recommends" section. Here, you choose three movies you liked from a list, then choose three more movies you liked from another list, and *Movie Select* will generate a printable list of recommended films based upon your selections. These movies can then be sorted by genre, such as Western, Religious, etc., or more vaguely by "style." Style choices include "Triumph of the Spirit," "Love in Jeopardy," "Intelligent/Literate," and so on.

The Find It! section of the program allows searches by title, actor/actress, or director, and works fine most of the time. (A search for "E.T.," however, sent it into conniptions.) Entries can also be accessed by the Hollywood Guide, which is simply a listing by Title, Actor/Actress, or Director. Why two menus

are needed for such similar functions is not clear.

Ah, and the entries themselves! This is where *Movie Select* is truly unique. They are quite possibly some of the most useless entries the developers could dream up. Each movie has its own screen listing stars, director, running time (sometimes), genre, and a very short description of the film in

question, written all in initial capitals. The listing for *Unforgiven* reads, "A Reformed Gunslinging Outlaw is Pulled Back Into the World He Left Behind."

There are indeed more titles here than in either *Cinemania* or *Ebert's Movie Home Companion*, but that's only because it's padded out with listings of adult movies and documentaries. The program crashes at certain places and randomly prints obscure anti-pornography messages in a few adult entries. In general, the information is neither

useful nor accurate, and I found several hard errors in only a few minutes. If you're looking for a decent computer movie guide, don't bother with *Movie Select*.

— T. Liam McDonald

Paramount Interactive, 700 Hansen Way, Palo Alto,
CA 94304 (415) 812-8200

♦ ♦ ♦ ♦ ♦

National Parks of America

DOS/Mac

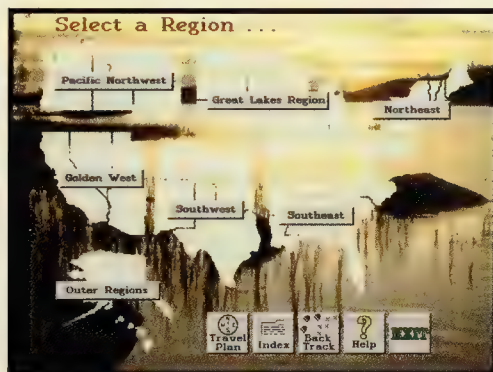
Multicom Publishing

\$59.95

There's certainly nothing wrong with the look of *National Parks of America*. Quite often there's so much dazzle in David Muench's photography that the eye doesn't know where to begin. Do you examine the oddly fluid rock formation dominating the foreground, or study the sharply etched mountain peaks in the background? Muench's camerawork poses many similarly pleasant dilemmas.

The only problem with the photography is that there's not enough of it. For instance, the Custer Battlefield National Monument stingily offers only two pictures, similar graveyard shots (a photo from any distance would illustrate how the terrain helped shape the Battle of Little Big Horn). Likewise, the Grand Coulee Dam and venerable old Mount Rushmore, each yield but three shots.

The same shortcoming haunts the park summaries. The information is correct, as far as it goes, but there are a wealth of omissions. The text for Redwood National Park mentions that the trees here are the oldest living specimens in the world. Left unsaid is *how* old some of these giants really are. What could have been added is some informative tidbit (e.g., that they sprouted during the lifetime of Jesus).



Likewise, volumes have been written about the Grand Canyon and Gettysburg parks, yet their write-ups here are almost threadbare. They tell you *when* the parks are open, but they don't convey *why* these places are worth visiting.

As a multimedia CD-ROM, *National Parks* makes some unusual decisions about the mood it wants to project. The musical choices strike a particularly odd chord. Imagine looking at Costa Mesa, the preserved Indian cliff-dwelling village and

hearing the somber strains of Beethoven's *Moonlight Sonata*. Perhaps some authentic tribal music would be more in order, or even traditional American folk songs, something less...European.

Narration is another prickly point. Some of the slideshows have a single line of spoken explanation about each picture. Many, if not most, however, aren't narrated. While the presence of voice-overs isn't critical, the inconsistency leaves us to wonder.

National Parks does benefit from an attractive and practical interface. From whatever state you're touring, you're only a click away from visiting another park in the same state, from selecting another state from that region, or from viewing the entire nation and traveling to another end of the country.

The program has other neat tricks,

too, like its Travel Plan utility. By entering a list of states you wish to visit, and targeting desired activities (camping, hiking, etc.), *National Parks* will kick out an activity agenda which can be stored or exported to a printer.

The Index feature is also handy, allowing you to save time by circumventing the national, regional, and state level map screens. By using the Index, you can jump right to any park.

Considerably less useful is the product's approach to video. We installed *National Parks* on three systems (a 486 equipped with a Cirrus-GD54 video card, another 486 containing a Diamond Stealth 24 board, and a Tandy Sensation!). Unfortunately, we were unable to run any of the program's video clips, on any system. (Those interested in *National Parks* are advised to contact Multicom about video compatibility before purchas-

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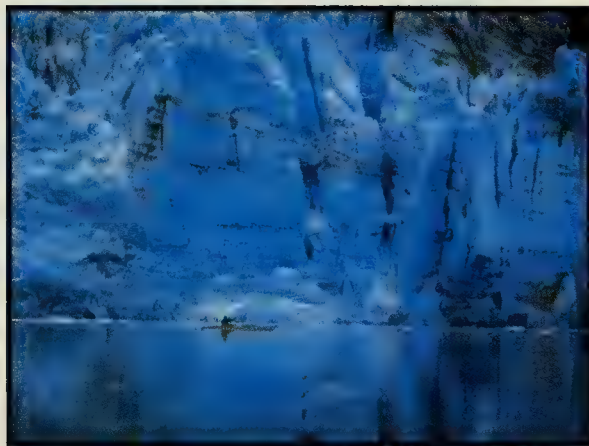


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ing the product.)

Included with the CD-ROM is an order form for a *National Parks* coffee-table book, also available through bookstores. Although this idea is a natural for a reference CD-ROM, the book version may be a better forum for appreciating David Muench's superb photography. Despite a few nice features, *National Parks* suffers from execution problems that ultimately dog its success as a multimedia product.

—Phill Powell

Multicom Publishing, 1100 Olive Way, Suite 1250,
Seattle, WA 98101 (206) 622-5530

Parenting

DOS/Mac

Creative Multimedia Corp.

\$69.95

Fortune 500 executives think they know what stress is. Air-traffic controllers drone on for hours about their nerves being shot. Forget about them, they're pikers on life's highway of hand-wringing and harrowing experiences. There's nothing that can compare with the anxiety of raising children in the nineties.

Ask anyone who has spent the evening trying to console a two-year-old with a cough that won't stop. The 15 minutes that transpire between the first

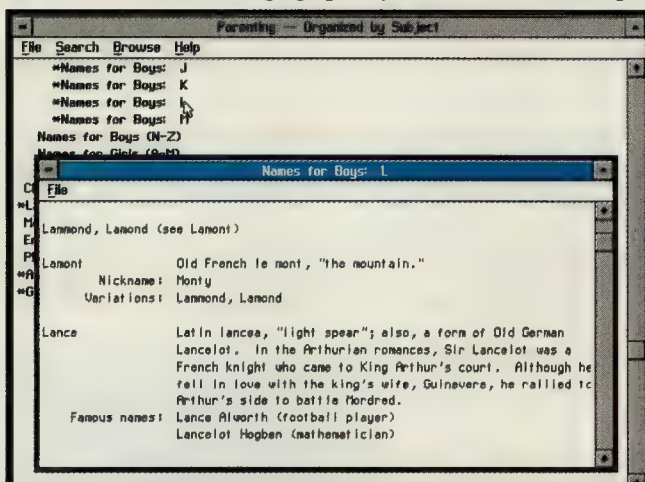
frenzied phone call to your physician's answering service and the subsequent call back can seem like millenia.

Worrying about an infant's behavior and development will cause premature graying faster than being presented with your first obstetrician's bill.

When you're frantic with anxiety, it's hard enough to locate a lost volume on the

bookshelf, let alone search the index and chapters for answers.

For many new and future parents, Creative Multimedia's *Parenting* may be just what the pediatrician ordered to help relieve the travails of bringing up baby.



This CD-ROM attempts, and for the most part succeeds, in bundling together much of the information needed to navigate the winding trail from fertilization to a child's fifth year.

Parenting takes the bulk of its text from several publications. "The Couple's Guide to Fertility" offers practical advice to those who are having difficulty conceiving, and does a good job of covering the procedures and tests that will normally follow a visit to a fertility specialist. "The Miracle of Birth" deals with the stages of fetal development and the delivery process in great detail. If you have any problems coming up with a

monicker for the new arrival, there's "The Ultimate Baby Name Book." Infant behavior, developmental progress, and socialization are covered by "The Complete Pregnancy and Baby Book." "Your Child: A Medical Guide" is not intended as a substitute for regular visits to the doctor, but offers sound medical advice on coping with a wide variety of infant ailments. "The New Parents Q&A Book" rounds things out with answers to new parents' common concerns.

Parenting allows keyword and subject search and display and/or an option to print any of the 400 photos and images included. Lise Alexander's photographs of children at play are particularly striking.

Parenting makes little use of sound

and includes no full-motion video, which would seem to be a natural for a program of this sort. The package is also weakened by the fact that virtually all of the books included are from a single publisher. Additional texts that offer second opinions would have been a welcome addition. The

dryness of the writing often left me yearning for the folksiness of T. Barry Brazelton or the straightforward style of Dr. Spock.

Being a parent, like putting together a successful CD-ROM title, is far from an exact science. You don't have to be perfect to be a good parent (or a good CD-ROM). Creative Multimedia can be justifiably proud of this newest addition to its family of products. If you're a new or prospective mom or pop, consider keeping a copy of *Parenting* close by your computer.

—Arlan R. Levitan

Creative Multimedia Corp., 514 NW 11th Avenue,
Suite 201, Portland, OR 97209 (503) 241-1530

ENTERTAINMENT

King's Quest VI

DOS

Sierra On-Line

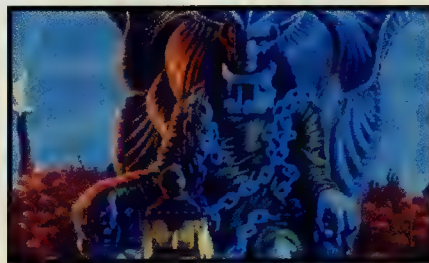
\$79.95

(\$39.95 for registered users of any King's Quest product)

It's hard to imagine a computer user who hasn't at least heard of the King's Quest series. Each of the six King's Quest installments stands among the best-selling graphic adventures in computer-game history. At one point, the series became popular enough to render Sierra's phone system unworkable because of the huge demand for playing hints.

Now, *King's Quest* is up to its sixth installment. And, essentially, number 6

does little that's different from number 5, or for that matter, the others. Each new game adds some interface enhancements, new storyline developments, and other evolutionary extras, but the basic theme changes very little. You're asked to take the role of a member of Davenport's royal family and go on a quest to save someone or something. Along the way, you'll find yourself facing puzzles of a variety of



types, many involving puns and other clever word play. There's no combat in *King's Quest* — it's just not that kind of game. And partly, because of this, the series has been widely purchased by

parents for family play. So it's hardly surprising that designer Roberta Williams hasn't strayed far from the proven path.

The CD-ROM version of *KQVI*, in fact, adds nothing to the graphics, size, or playability of the floppy disk version. It would be nice to have greater graphic detail, because King's Quest graphics are no longer state-of-the-art, but it simply doesn't happen here. What the CD-ROM version adds, instead, are voices. On the floppy-disk version, you often encountered a text box describing something, quoting a character, or telling you what went wrong (or right). In the CD-ROM version, all of these boxes, without exception, have been replaced by human voices, and what this adds is surprisingly significant.

For the most part, the voice you hear is that of the narrator, who replaces the explanatory text boxes. His is a gentle and unobtrusive voice (a good thing consider-



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Company	Page Number	Product Information Number
ACS	9	145
Aris Entertainment	24	144
Ask Me, Inc.	83	179
Brookstone Productions	6-7	166
CD-ROM Source	41	175
Companion Software	99	176
Compton's NewMedia	11	106
Corel	BC	180
Creative Labs	IFC	107
DeLorme	103	177
Digital Theater	59	146
Discovery Channel	35	167
Dr T's Music Software	89	178
Ebook	19,53	110
Electronic Arts	65	148
Humongous	23	114
IBM	13	164
IBM/Ultimedia	21	149
Infobases	86	168
Interplay	15	116
IVI	20,91	115
Jasmine Publishing	61	150
KidSoft	25	169
Knowledge Media	100	118
LucasArts	5	170
Max Media	95	151
Mega Media	55	124
Multicom	43	171
New Media Source	73	154
Pandemonium	27	172
PC Sig	101	156
Pro CD	87	157
Revell CD	IBC	158
Software Toolworks	17,63	142
Software Marketing	26	173
Software Sorcery	37	159
Starware	97	136
TIP	93	137
Velocity	1	174
Virgin Interactive	45	138
Visible Ink	85	162
CD-ROM Today:		
Subscription	16	

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ing you hear it so often). The more interesting voices, though, are those of the characters. Prince Alexander (whose role you assume) sounds like a highly sensitive and polite young man. The Black Widow's voice is seductive in the Mae West tradition, and others on the Alice in Wonderland-like isle are equally interesting. Only at only one point in the game do the voices impede play: five dwarves appear and chant riddles, and while the voices add a sense of realism to the delivery, they are also difficult to discern.

You can replace the voices with the standard text boxes whenever you like, however, and this is one time to do so. Still, using the standard text boxes more or less defeats the purpose of playing the CD-ROM version in the first place. Given the fantasy environment of the enchanted isles setting of *KQVI*, voices add considerably to the playing enjoyment. Of course, the CD-ROM also lets you save lots of hard-drive space (you'll need 4-5 megabytes, rather than the 20-plus required by the disk-based version).

The CD-ROM version contains a few additional features, including previews of upcoming Sierra games and a short video feature on the making of *KQVI*.

— Neil Randall

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(209) 683-4468

♦ ♦ ♦ ♦ ♦

Return to Zork

DOS/Mac
Activision
\$79.95

The first Zork adventures, as any old-time computer gamer will tell you, were text games. And that means text *only* — no graphics, no sound, no nothing. Just descriptions of a scene, details on what objects were in that scene and where the

exits were, and then a blinking cursor for your typed input. "Go North. Pick Up Rock."

Despite the lack of graphics and sound — or, perhaps, because of it — Infocom's Zork games attracted a wildly



enthusiastic following. At the time, the Zork titles were of unparalleled depth and complexity, and in many ways they forged the way for all adventure games to come. The series invited us to invent our own game world, personalizing the Great Underground Empire of Zork as we

imagined it for ourselves. Playing a Zork game was like interacting with a good novel; a unique experience, and one guaranteed to inspire loyalty.

But as a glance through this magazine makes clear, the personal computer is quantum leaps ahead of it where it was in the heyday of Zork. Graphic adventures — not text adventures — are the norm, and today's game players expect all the graphic and sonic enhancements they can get. In creating *Return to Zork*, Activision had to consider the contemporary gamer's craving for top-notch effects, while weighing the text-only beginnings that inspired such a loyal following. And the result is even better than this Zorkaholic might have hoped.

The brand new *Return to Zork* not only revives a classic adventure cycle, but catapults it into the future of interactive

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entertainment. In appearance and interface, *Return* is way beyond just about any CD-ROM game on the market — as befits a once-and-future trendsetter. The technological leap is dealt with in the game's storyline as well. Centuries have passed since the time of the original games, and what we see is a modern Zork. This tack works well, creating a sense of the original Zork games as history, and this high-tech new title as state-of-the-art.

It's the look of *Return to Zork*, and the sheer professionalism of its presentation, that will command your admiration each time you sit down to play. Utilizing digitized video and audio of professional actors in nearly every role, *Return* is as exciting as any movie. And it's interactive to boot. You are the star here, and you'll live this game in true first-person fashion — through *your* eyes and ears.

Ears, because not a single written line of dialogue appears in this game. When you talk with anyone, or when you're told important information, it's entirely through digitized speech. To help you remember what's said, a tape recorder in your inventory automatically records all dialogue. It's a wonderful extension of the first-person perspective, and it works beautifully.

One reason it works so well is that the game's designers spent the time (and money) to hire professional actors. Ever since the first digitized characters appeared in computer games, I've been of the opinion that the technical marvel of seeing those real people just isn't enough to hold a gamer's interest. Because once a game presents real performers, those performances beg to be compared to the acting we see everyday on television and in movies. Too often game developers have tried to get away with sub-standard performers — and the results are sometimes comical, sometimes sad. Activision avoids this by using pros. The perfor-

mances are all solid, adding to the adventure rather than detracting from it.

Return to Zork is available on floppy disk as well as on CD-ROM, and a new CD-ROM version has recently started shipping with Sigma Designs' ReelMagic video board. This board brings incredible full-motion to the game for realism you have to see to believe.

Until now, the much-heralded "interactive movie" has seemed to be just so much hype. But *Return to Zork* brings the hype to life. This is truly an amazing, next-generation product, of such unparalleled quality and technical excellence that it *must* become the model for CD-ROM adventure-game designers.

— Matthew A. Firme

Activision, 11440 San Vicente Blvd., Los Angeles, CA 90049
(310) 820-6131

♦ ♦ ♦ ♦ ♦

Ultima Underworld I and II DOS *Origin* \$79.95

If you're already familiar with *Ultima Underworld I: The Stygian Abyss* and *Underworld II: Labryinths of Worlds*, then the only thing you need to know about the CD-ROM version is that it contains the most recent (i.e., bug-proof) versions of both games. Nothing new has been added, nor has anything been changed. The best news for players of the floppy-disk versions is that the two games together take up less than a megabyte of hard-drive space, and this doesn't increase much as you save your progress.

For those who haven't played either of these games, the CD-ROM version is an excellent buy. *Underworld I* was a breakthrough design when it first appeared a couple years ago, offering the closest approximation of any role-playing

game to true first-person perspective. This perspective was enhanced slightly in *II*, as were the graphics, and the interface was streamlined to allow more of the screen to show what your character was seeing.



Together, the two games provide hours of intriguing exploration, and a real sense of being inside this simulated world.

In both games, you play a solo adventuring hero. Your mission, as in practically all fantasy role-playing games, is to venture into the depths of a new world and destroy an evil entity. Of course, with all you have to do in the meantime, and with all the hours you'll spend involved in various sub-plots, your actual mission takes second place to just seeing what's around every corner. And in the *Underworld*, *seeing* what's around each corner is exactly what you'll be doing. You observe through your hero's eyes, and this view is the only one you have. You can look straight ahead, and you can tilt your head up and down — and these three perspectives are necessary for success. The only down note is that your hero has a disturbing lack of peripheral vision, and that's something that needs enhancing in future installments.

Several other features make these games special. Because the perspective is so well handled, you feel as if you're moving through the corridors. You can run and even jump in this game, and, again, the *feel* is very close to being real. If that's not enough, you're forced into swimming at some points, and after using certain spells you can fly. Movement in this game is fun for its own sake, and not

just for a few minutes.

Interaction with non-player characters is good in *UW1* and even better in *UW2*. You talk to them and respond by selecting responses from a list. Or you can ask your own questions. Your response spurs other responses (how you answer is important), and so on. Conversations can go on at length.

Apart from the perspective, perhaps the strongest single feature of the game is its map. Both of these games automap, and you can access the map at any time. But unlike those in most fantasy role-playing maps, the map in this game actually looks like one. It works extremely well, and it should be a model for all fantasy role-playing games.

All in all, this two-game bundle is an excellent purchase. Be aware that, despite a reasonably simple interface, *Ultima Underworld I and II* are demanding and time-consuming, but if you're willing to

invest the time and energy, by all means give this CD-ROM a try.

— Neil Randall

Origin, 12940 Research Blvd., Austin, TX 78750
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* * * * *

Video Cube: Space

MPC

Aris Entertainment

\$49.95

This is the first offering in a new series of CD-ROM games that integrate full-motion video with a challenging interactive puzzle. Published by Aris Entertainment — the same folks that topped the sales charts earlier this year with *MPC Wizard* — *Video Cube: Space* is a unique blend of multimedia components. In the game, small cubes form a larger square, and the goal is to rotate the cubes to

reveal six pictures, each representing the first frame of a Video for Windows clip. Clicking the mouse near one edge of a cube flips up part of another picture, and when all the pieces of a picture are in view, a video clip comes to life. A clock limits the amount of time you have to solve the six puzzles on each of the 18 levels. At higher levels, the puzzles get trickier and there's less time to solve them.

If Aris made cars, you'd say that *Video Cube* has a few fit-and-finish problems. As a full-screen Windows program, it needs to be a better neighbor. Switching to another window, you'll find that *Video Cube* remaps the colors in the system palette, and many other programs' menus and dialogs are unreadable. It also seems to be written for a 640 x 480 pixel display: at higher resolutions, the game sits forlornly in the upper-left corner, while the rest of the screen is black.

Video Cube needs a fast CPU — at

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REVIEWS / ENTERTAINMENT

least a 386/33, with a 486DX strongly recommended — and systems with this kind of power usually have sophisticated video, too, most running at higher



resolutions than *Video Cube* expects. It doesn't hurt the playability of the game, but the images would have more impact if they took up more of the screen.

For someone interested in space exploration, the Video for Windows clips are the best part of *Video Cube: Space*. Over 100 clips show footage of rocket launches, space walks, and planetary flybys, with a nice variety of original musical on the soundtrack and a reasonable 240 x 240 pixel frame-size at 15 frames per second. You can view the AVI files with the Windows Media Player accessory, and they're encoded in full 24-bit color using the Cinepak codec.

Although the game runs only in 256-color video modes, the clips are spectacular when displayed full-screen on a fast full-color display.

Emphasizing quick pattern-matching and accurate cursor control, *Video Cube* is a tough test of mouse/eye coordination, but not a big conceptual challenge. Despite obvious comparisons with Rubik's Cube, it's more like building a jigsaw puzzle against the clock. Still, it's a playable game, and space fans will find the video clips ample reward for solving each step. It gets a qualified recommendation, but with a little more polish this cube could really sparkle.

— Tim Victor

Aris Entertainment, 310 Washington Blvd., Suite 100,
Marina Del Rey, CA 90292 (310) 821-0234

Lord of the Rings

DOS

Interplay

price not set by publisher

The *Lord of the Rings*, J. R. R. Tolkien's fantasy trilogy, essentially created the fantasy-fiction market, and out of that market came role-playing games. Contrary to the insistence of the press, however, fantasy role-playing (FRP) games such as *Dungeons and Dragons* are *not* based on Tolkien's trilogy; instead, they combine the party-and-treasure basis of Tolkien's less important book, *The Hobbit*, with the hack-and-slash combat found in the old swords-and-sorcery genre.

As computer games grew in popularity in the 1980s and into this decade, there was a need for a game that would capture the spirit of Tolkien better than FRPs had managed, yet one that would allow Tolkien fans — many of whom have read the trilogy several times — a chance to explore Middle Earth (Tolkien's fantasy world) even though they know the original story backwards.

Interplay's game succeeded when it was released in a floppy-disk version a couple of years ago. In one respect, it resembles another licensed product from Interplay, *Star Trek: The 25th Anniversary*, which has garnered accolades for capturing the true spirit of the original television show. *The Lord of the Rings* starts in the Shire, home of the famous hobbits, and takes you through familiar Tolkien locations — the Old Forest, Bree, Rivendell, Moria, and Lothlorien — emphasizing exploration rather than combat, and escape rather than confrontation, the key emphases in the trilogy itself. Yet it still manages to be a game rather than a simple re-creation, and that's an amazing feat.

There are few downsides to this

game. One is the graphics, which are OK, but not up to current standards. A second is an interface that, while superbly simple in some respects (magic and combat, for



instance), is oddly clumsy for simple transactions such as item purchases. A third shortcoming is that non-Tolkien fans will probably have no idea what they're supposed to be doing — but given the author's vast audience that's hardly a real problem.

The CD-ROM version fine-tunes the interface from the original floppy version, adding valuable features like diagonal movement (which should have been there all along) and automapping. More significantly, it adds an introduction and several episodes from *The Lord of the Rings* movie, animated by Ralph Bakshi. After the introduction, scenes from the film appear at crucial locations in the game, and they add considerably to the game's mood. Unfortunately, however, they don't appear that often. And equally unfortunate is the fact that the likenesses of the game's characters have not been altered to match those in the movie. Nor do the situations themselves exactly match. Another CD-ROM feature is a full-stereo soundtrack, which sounds great, but repeats the same themes over and over.

Still, this is an enjoyable video-enhanced product, as well as an exemplary Tolkien "simulation." It's a must-have for Tolkien fans, and a should-have for all FRP gamers.

— Neil Randall

Interplay, 17922 Fitch Ave., Irvine, CA 92714
(714) 553-6655

The Last Dinosaur Egg

MPC/Mac

\$39.95

Sanctuary Woods

The *Vampire's Coffin*, the debut title in the Victor Vector and Yondo adventure series, was a well-meaning romp handicapped by a clumsy user interface, a limited set of locations, and a plot line more linear than an Arizona interstate.

Sanctuary Woods has gone back to the drawing board and hatched another adventure — these titles are now part of the company's I-Venture series — that sends Victor and his digital dog into the past, this time on a search for a Tyrannosaurus Rex egg. The jokes are still bad, and the dialogue remains as corny as



Kansas in August, but *The Last Dinosaur Egg* shows commendable improvement over Vic and Yondo's previous outing.

Most of the irritating glitches that plagued the game's user interface have been addressed. The program universe has a more expansive feel to it and the Sanctuary Woods programmers seem to be coming to grips with the vagaries of using Macromind Director as a game engine.

The Last Dinosaur Egg also incorporates enhanced political correctness. During the course of their travels through the Triassic, Jurassic, and Cretaceous eras, our hero and his canine companion are joined by Delta Mode, a female time traveler whose earrings look suspiciously like CD-ROM discs.

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Product Information Number 156

Victor and Yondo's old nemesis, Ram Axis is still floating around (this time in a stylish lizard suit) to toss an occasional roadblock in the way of the player's progress. There are also a number of interesting plot twists, including an abduction by some creepy-looking aliens and some less-than-obvious humorous elements in the comic-book style artwork.

Victor Vector is still in desperate need of a decent haircut, and Yondo's vocal inflection is far too close for comfort to the voice of the dumb dog who incessantly asked "Which way did he go, George?" in several Looney Tune classics.

None of the challenges posed are enough to slow down seasoned adventurers for more than a few seconds. The only thing that thwarted me was a test on dinosaurs I ran into during the course of play.

Versions for both Mac and Windows users are now included on the same disc. Sanctuary Woods promotes the game suitable for ages "8 and up," but experienced gamers can finish the game in less than hour. If you're a greenhorn when it comes to adventure games, starting out with *The Last Dinosaur Egg* is likely to be a satisfying repast. Let's hope that *The Hypnotic Harp*, the next installment in the Vector and Yondo series, can satisfy the appetites of adventure gourmets as well.

—Arlan R. Levitan

Sanctuary Woods, 1875 Grant St., Suite 260,
San Mateo, CA 94402 (415) 578-6340

♦ ♦ ♦ ♦ ♦

The Labyrinth of Time

DOS

Electronic Arts

\$59.95

This CD-ROM game is the kind of product we've both hoped for and feared. The first exclusively CD-ROM title from Electronic Arts, *The Labyrinth of*

Time simultaneously demonstrates the huge potential of games on CD-ROM and the fact that designers still have a lot to learn about the medium. This latter point should not come as a surprise since CD-



ROM gaming is still a relatively new platform.

The game's premise is instantly fascinating. You're about to board the subway for a trip home after a hard day's work. Suddenly, a figure appears in front of you, introducing himself as Daedalus, who in Greek mythology designed the famous labyrinth for King Minos. Minos' spirit has commanded Daedalus to construct a new and better labyrinth, this time to allow Minos full control over humanity itself. Your task is to destroy the labyrinth, which intersects with our world temporally rather than spatially.

Labyrinth is entirely mouse driven, although keyboard equivalents exist for most commands. To move forward, click on the up arrow; to turn left, click on the left arrow. To view an object, click on the eye icon, then on the object you wish to see. Sometimes you must view the object even more closely by clicking on a portion of the close-up. You can move objects as well, or use them by going to the inventory sub-menu. Clicking on the map icon yields a well-designed (but strangely undetailed) automap, an essential device throughout the game. *Labyrinth's*

interface, one of the game's four most outstanding qualities, is extremely simple to use and quite effective.

The game's other three strengths are its graphics, its music, and — as a result

of both — its overall mood.

Visually, the game is stunning, even though most of it consists of still pictures, not animations. Whenever you walk forward or turn, you're shown another superbly rendered graphic, and the variety of time periods you traverse in the game (western, medieval, Cretan, etc.) is well represented by the variety of

screens you see. Aurally, *Labyrinth* offers some digitized sound effects, but far more important is its ongoing musical score. A kind of New Age/Classical orchestration, this is probably the first game score that both enhances the mood and does not grow tiresome. Both graphics and music combine nicely to offer a mood of mystery and disorientation from start to finish, which is precisely what the game's premise is trying to create.

That's what we've all hoped for from CD-ROM games. But *Labyrinth* also represents everything we've feared. Simply put, there's not a lot to do in this game, and the vast majority of the screens are lovely, but unimportant. So much design effort has gone into *Labyrinth's* ambience, it seems, that player involvement has been given short shrift. In other words, the medium is the game, and this is what we've feared could happen with 640-megabyte games.

Recommended, but consider carefully before you buy.

—Neil Randall

Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA
94404 (415) 571-7171

EDUCATION

The Selfish Giant

MPC/Mac

Sanctuary Woods

\$59.95

Oscar Wilde's tale about a self-obsessed giant who banishes children from his garden, thereby condemning his land to perpetual winter, gives any child a terrific psychological boost. In the selfish giant's world, kids bring all that is positive — sunlight, warmth, an abundance of flowers, trees festooned with blossoms, and birds bursting with song. Devoid of happy youngsters, the giant's garden is covered in snow, the north wind perpetually blows, and his castle is enveloped in winter's chill. In the end, though, good prevails, and the giant dies a happy man.

The Selfish Giant is one of the first titles in the I-Tales series of animated storybooks from Sanctuary Woods. This series is designed to translate children's classics and original stories into an interactive format that teaches as well as entertains.

For *The Selfish Giant*, the designers chose a medieval theme, very much in the mood of traditional fairy tales. The ochre-colored pages are designed to resemble a parchment with rolled edges. A large red seal governs movement between the screen and the main menu. Heraldic-style ribbons control sound levels and narration. Program operation (Macromind Director is the engine) is a bit fussy because the mouse arrow often switches to the conventional hourglass and back before a new

screen appears or the chosen activity starts. You're apt to click again (a mistake), and the delay reduces your sense of continuity. Glitches in the soundtrack and the narration are also distracting.

Very young children might find the story a little long at 52 pages. But the coloring book, puzzles, and build-your-own-giant segments will appeal — and



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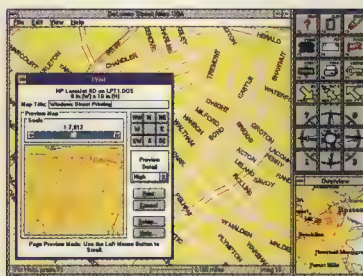
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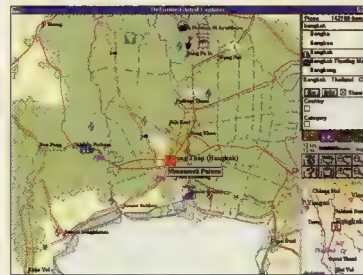
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the program offers instant access to any page. There are more than 100 digitized art and animation screens, as well as five original songs to learn and sing. And as younger users mature, they'll be able to play connect-the-dots, unscramble words associated with the story, and expand their vocabularies.

A click on a sprawling oak tree turns up detailed information built on the story's setting and characters. Illustrated text about castles, giants, trees, plants, insects, and animals (and the different elements of weather and the seasons) enrich the program, although some of the graphics would benefit from more detail. Narration accompanies all the text, a help to the younger set, and two video clips provide a little movement but really don't add much to the story. In a CD-ROM market flooded with book titles, this is an unusual story, fleshed out into a fine learning and entertainment program.

— Anne Gregor

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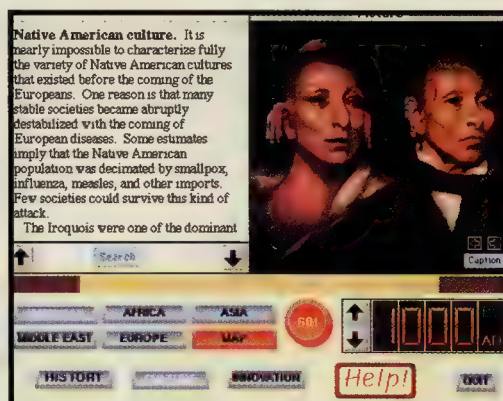
Time Traveler CD: A Multimedia Chronicle of History

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The vogue for grand unified theories of history went out with the Berlin Wall. Now we have the opposite trend — the factoidization of history — as exemplified by several history surveys recently published on CD-ROM. One of these, *Time Traveler CD*, a disc plainly designed for use in schools as a research aid, points up the problematic aspects of learning history from a disc.



Time Traveler consists of three windows: a text window that displays short articles about a wide range of events in world history; a picture window with digitized art keyed to the current text article; and a control panel for navigation. While *Time Traveler* is billed as a "multimedia chronicle of history," there are only a few sounds and no animations or QuickTime movies.

Surveys like *Time Traveler* are only useful if you can search them easily and successfully. Using the control panel, *Time Traveler* searches can be narrowed to events that happen in a particular year, or to one of the five major geographic regions, or to one of three subject areas: history (wars, rulers, and revolutions), culture (religion, philosophy, art, literature, and music), and innovation (science and technology).

These broad search criteria dovetail well with typical grammar-school history projects. But the text index, absolutely essential for locating specific information, is completely inadequate for basic research because it does not list all the keywords in the body of each text article. That leads to lapses in the search process that students will find frustrating. For example, Thomas Jefferson is mentioned in several text articles, but his name appears nowhere in the index. Pictures are not indexed at all.

Nor is *Time Traveler* a reliable reference tool, even on its own terms. Text

articles are brief and often contain references that go unexplained. The product's multicultural, multiregional, multidisciplinary focus is politically correct, but not evenhanded. There are index entries on Buddhism, Catholicism, Christianity, Confucianism, Hinduism, Islam, Jainism, the Protestant Reformation, and Shintoism, but not Judaism; on Timbuktu and Teotihuacan but not

New York, Paris, or London; on China, Cuba, Angola, Vietnam, and the U.S.S.R, but not the U.S. Some topic choices seem purely haphazard: the index mentions relativity, but not gravity; Mozart, but not Beethoven; Sitting Bull, but not Tecumseh; television, but not computers.

A more serious criticism can be leveled at many survey products of this kind, not just *Time Traveler*, and that is that they provide no historical overview to help students make sense of what they are reading and seeing. Interactive timelines and historical maps would at least supply graphically interesting context for *Time Traveler*'s historical tidbits.

Despite these serious shortcomings, some schools may find *Time Traveler CD* useful as a browsing tool to pique student interest in unexplored aspects of world history — as long as teachers then steer students to the library and other sources for real information, not factoids.

— Steven Anzovin

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ogy to the computer atlas, and the result is a thorough, informative, and entertaining tour of our world.

Exploring *Picture Atlas* is like thumbing through a world atlas that comes alive on every page with photographs, video, music, and a thoughtful discussion of the world and its cultures.

Although *Picture Atlas* succeeds as a whole, the program isn't without flaws. Neither the photos nor the videos are as sharp as you'll see elsewhere.

But most surprisingly, the maps don't measure up to National Geographic's lofty standards. They're not particularly attractive; I'd prefer to see natural colors instead of the pastels used to paint continents and countries. And there's not that much information to be gleaned from the maps, which show only cities and major geographic features.

But at the country level, the program comes to life — it's filled with icons of cameras, film, and text that unlock the cultural feast that makes *Picture Atlas* a delightful educational tool.

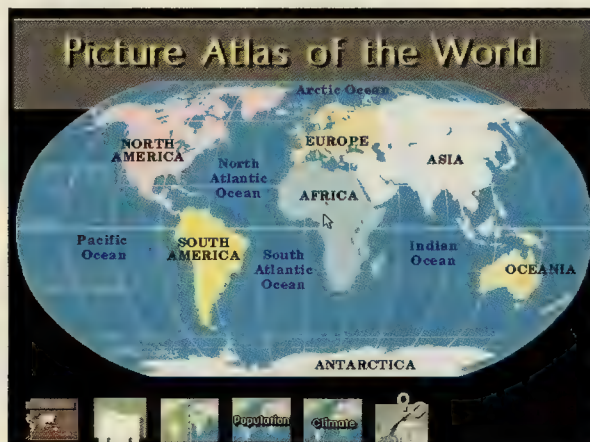
From the country map menu, you can choose a photo tour; call up economic, cultural, demographic and climatic information; watch videos; listen to traditional music; or read a comprehensive article on the country selected.

Text discussions are excellent, balancing fun facts, cultural insights, and an unflinching look at the world's troubles to paint an objective portrait of our world. Take a photo tour of Jamaica, for instance, and you'll see white tourists on a sparkling beach, Jamaicans living in desperate poverty, a bauxite mine, and reggae musicians. It would have been easy to show a resort, a waterfall, and some smiling natives, but *Picture Atlas* doesn't settle for a travel-guide approach.

Although *Picture Atlas* is geared for a young audience, it's written at a high-enough level to satisfy adults while challenging —

but not talking down to — young students.

The program boasts a graceful and flexible interface, with data accessible from the indices and the maps themselves. Look up the Nile, for instance, and you'll be taken to a map of Africa with a red arrow pointing to the river. From



there, you can click on the Sudan and learn of the role the mighty river plays in this impoverished country.

So whether your sixth-grader has a report due on Pakistan, or you just want to daydream about a trip to Ireland, *Picture Atlas* fits the bill.

— Lee Buchanan

National Geographic Society, Educational Services,
Washington, D.C. 20036 (800) 368-2728

♦ ♦ ♦ ♦ ♦

The Reading Carnival

MPC
Digital Theater
\$49.95

When the carnival comes to town, children huddle on the sidewalk or behind a fence, watching excitedly as workers hoist tents, assemble booths, and raise rides on what is usually a vacant lot. The bright colors, the sounds, and the smells fascinate them. They dream of spun sugar and hot dogs, fat ladies, and performing animals.

There are no fat ladies in *The*

Reading Carnival, nor any wonderful scents, but with its debut educational CD-ROM, *Digital Theater* provides many of the other delights so appealing to children. Rich primary colors, characters full of smiles, hypnotic music, and a sense of mystery and wonder mix together in a festive medley.

A blue-and-gold banner mounted in front of a broadly striped tent greets youngsters. The entry screen offers several jump-off points. Click on one of six story icons in the outer frame, or head to the front of the tent for help from the kangaroos behind three booths. Other kangaroos hop, bounce, and jump about the

screen, entertaining the undecided.

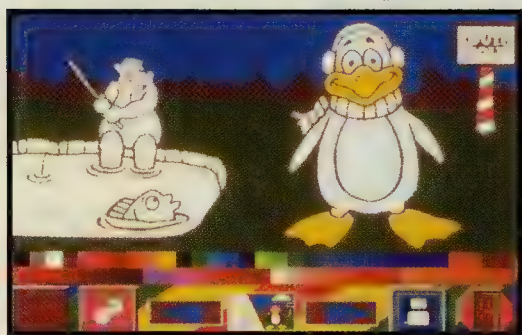
In the Animal Facts section, you can learn about penguins and elephants, and in the Fascinating Facts section, you can discover how the ice-cream cone was invented, or learn about the history of the Statue of Liberty. In Super Hero Stories, you follow the adventures of Bold Beaver and the Bubble Gum Girl. There's a lot of well-planned variety.

Each story provides numerous related learning activities, and is designed to develop a child's vocabulary, reading comprehension, and deductive skills. There's a facts quiz, a game of deduction in which the player picks the correct object given a series of clues, and a test of word meanings which ask the player to pinpoint a false association. In another word game, children test spelling and vocabulary by creating as many words as possible from "Penguins" and "Elephants." Younger children will need parental help here. The program offers no built-in clues if you reach a dead-end.

A click on the camera icon at the bottom of the Animal Story screens brings up photographs of the creatures in their

native habitats with a zoom feature for close-up looks. The photographs of the Antarctic penguins are particularly varied and interesting.

Even more fun are the template drawings which accompany each story. Children can choose from 248 colors and 10 textures, save their creations, and print



them. My daughter was particularly taken by the coloring option. Again, non-readers will need teacher or parental help. No verbal commands accompany the print/save icon. However, children might find it hard to persuade their parents to sit with them. The music, with an incessant, tinny beat, rivals the sound played behind sports footage on newscasts.

Fact and play are well-blended in *The Reading Carnival*. Child narrators lend a friendly tone, help instructions are delivered via audio, and pictures are painted with a broad brush for appeal to kids. Precocious pre-schoolers and children in the early grades will like this program.

— Anne Gregor

Digital Theater, 5875 Peachtree Industrial Blvd.,
Suite 150, Norcross, GA 30092 (404) 446-1332

♦ ♦ ♦ ♦ ♦

Who Built America?

Mac
Voyager
\$99.95

Who Built America? surveys one of
the most tumultuous, painful, and

poorly understood periods in U.S. history: the four decades from the American Centennial of 1876 to the outbreak of the First World War in 1914. Such a vast and complex subject deserves an exceptional historical text — and this disc delivers the goods. Based on the textbook of the same name by historians Roy Rosenzweig and

Steve Brier, and designed by Josh Brown, *Who Built America?* proves that the concept of the electronic textbook is truly viable.

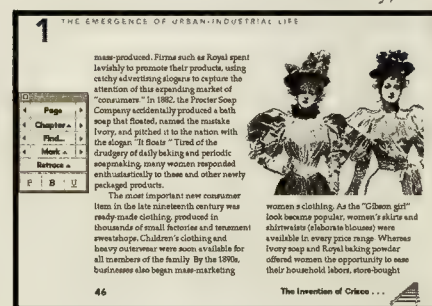
It goes without saying that a historical text on CD-ROM should incorporate pictures, music, movies, and the spoken word. But *Who Built America?* includes more than 600

megabytes worth of multimedia source material. Supplementing the informative text are hundreds of high-quality gray-scale photos (including those of master photographers Jacob Riis and Lewis Hine), charts, drawings, and commercial graphics, all with descriptive captions.

Archival audio provides background to such famous events as the Triangle Shirtwaist fire and the Alabama race riots of 1906, and is presented in the form of first-person accounts and speeches: Casey Jones' last train ride is remembered by his fireman, and William Jennings Bryan delivers his "Cross of Gold" speech. There are also recordings of labor ballads, political ditties, and folk songs — four hours of audio in all. Twenty QuickTime movies provide a feel for the hurly-burly atmosphere of turn-of-the-century America. In many cases, several movies on one topic are included for added depth. For example, three film clips on the sinking of the U.S.S. Maine in 1898 (the event usually considered to have sparked the Spanish-American War) shed light on how movies, even at that early date, molded American popular opinion.

Best of all, especially from the viewpoint of the serious student of history,

are the thousands of pages of primary documents referenced to the main text. Ten text documents cover various aspects of the great Pullman strike of 1894, one of the defining events of the American labor movement. There are 16 primary text sources on the Wild West, revealing the perspectives of both settlers and Indians — and even dealing with such rarely discussed topics as gay cowboys and the miserable lives of Chinese prostitutes. Eighteen documents give a range of source material on the topic of American imperialism and the Monroe Doctrine as extended by Teddy Roosevelt. Not only are these sources the real meat of history, but



they are also more revealing, more engaging than any text written by history professors, no matter how skillful and broad-minded. And there's enough material for students to draw their own conclusions about the causes and meaning of each event discussed.

As the text forthrightly states, *Who Built America?* presents a populist, multicultural, social-centered viewpoint. This is history as seen from below, which the authors believe is a necessary corrective to the "elitist" brand of history found in most texts. Whether you agree with this, and while everything in *Who Built America?* is not necessarily history — as opposed to, say, folklore or popular culture — you won't be able to deny that this is one disc that makes good on CD-ROM's promise as a tool for learning.

— Steven Anzovin

The Voyager Company, 1351 Pacific Coast Hwy.,
Santa Monica, CA 90401 (800) 446-2001

The Ugly Duckling

Windows/Mac

Morgan Interactive

\$49.95

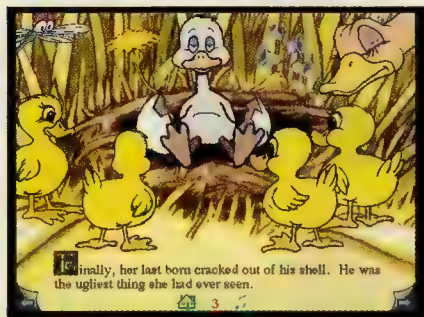
The story of the Ugly Duckling has always held a valuable lesson for children: Everyone is different and everyone belongs. Morgan Interactive delivers that message in its debut CD-ROM. *The Ugly Duckling* is an excellent multimedia book that allows kids to watch the story unfold or to actively enter each page of the story.

The Ugly Duckling uses 16 colorful pages of interactive animations to tell the story of the misfit duckling who blossoms into a lovely swan. Shunned by his brothers, sisters, and a barnyard full of haughty animals, the duckling sets out on his own, meeting with a series of adventures and rejections.

Like other multimedia books for children, *The Ugly Duckling* lets kids either watch and listen to the story, or explore each screen at their own pace. After turning the page to a new animated scene, a narrator reads several lines of text, with the words highlighted in red as they are read. Once read, you can hear a page's entire text again or hear each word pronounced separately.

After the narration is complete, each page holds delightful surprises that appear with a click of the mouse. Just about every element of each page comes alive — trees grow faces, frogs bubble up to the surface of a pond, and birds fly overhead. The animations don't develop the story, but kids are sure to be captivated as they click on object after object — sometimes getting a different result from the same object.

This product succeeds on several counts — as a reading tool, as a storyteller, and as a friendly introduction to computers. My four-year-old daughter



recognized the storyline instantly, and she was eager to turn the pages and help the duckling on his way to becoming a swan.

Three original songs, all in keeping with the themes of the story, can be played at any time. They're catchy tunes — one is a rap song — and they are accompanied by on-screen text.

Animations are smooth, and every scene is lovely, with the many characters vividly rendered. Audio, too, is impressive, with little of the crackle that sometimes mars CD-ROM sound.

For children learning to read and for kids who love to actively explore scenes, *The Ugly Duckling* is an engaging teacher and a delightful introduction to computers.

— Lee Buchanan

Morgan Interactive, 160 Pine St., Suite 509,
San Francisco, CA 94111 (415) 693-9596

♦ ♦ ♦ ♦ ♦

Allie's Playhouse

MPC

Opcode Interactive

\$59.95

This debut title from newcomer Opcode Interactive is a point-and-click playground for children ages 3-8. *Allie's Playhouse* distinguishes itself from much of the competition in the educational category by virtue of its wide and varied selection of learning activities. While the customary counting, color recognition, and alphabet skills get exercised, kids will also learn the names of body parts, design

musical instruments, identify the continents, and record their own music with an onscreen synthesizer.

Putting your child under the care of a computerized "teacher" always generates a little anxiety. How can you be sure that the program will create healthy educational experiences? Opcode Interactive has tried to address that concern by enlisting the consulting support of professional teachers from both Montessori and public schools.

Another parental worry involves the potential damage to hard-drive data when a little one is not under close supervision. Allie includes a Child Safety feature, available only in the 640 x 480 graphics mode. When activated, it makes it impossible to exit the program without pressing a secret hot-key combination. If you set this as the default mode, your data will be safe whenever *Allie's Playhouse* is run.

A big part of childhood play is interacting with other children. *Allie's Playhouse* tries to simulate that experience by asking kids to select one of six on-screen playmates (three girls, three boys) to join them in the playhouse.

The photo-realistic images of these children are enhanced by numerous audio recordings of their voices discussing things they like, explaining activities, and basically sharing the fun. This device adds a friendly element that makes *Allie's Playhouse* warm and personable.

By clicking on objects in the living room and kitchen of *Allie's Playhouse*, children activate either a fanciful animation sequence and sound effect, or launch into one of 16 edutainment activities.

Included among those activities are an on-screen coloring book in which kids fill line drawings with color; a game that calls out the names of body parts when children click on a word or illustration; a unique exercise in which youngsters build



musical "instruments" then listen to the unique sequence of sounds they've created; and a spelling game that prompts kids to find certain letters in words or objects.

In short, there's plenty going on for even the most active child in *Allie's Playhouse*. With outstanding use of speech and plenty of good music, charming cartoon graphics, and well-designed learning games, *Allie's Playhouse* should be a strong candidate when you're looking for software that will stimulate, entertain, and educate your youngster.

— Bob Lindstrom

Opcode Interactive, 3950 Fabian Way, Suite 100,
Palo Alto, CA 94303 (415) 494-1112

♦ ♦ ♦ ♦ ♦

Columbus Day by Day

Mac
Timebox
\$149.95

The meaning of Christopher Columbus's discovery of the New World, much debated during the quincentennial celebrations of the event last year, is always a topic of interest in schools, even if the rest of us have had enough of the subject to last another

500 years. *Columbus Day by Day* is a multimedia CD-ROM containing almost everything a teacher or student might ever want to know about the Admiral of the Ocean Sea, his exploits, and his legacy.

There are thousands of pictures, movies, sounds, and text chunks in *Columbus*, but they are not ideally organized. Historical information is chopped up into a set of timelines covering such themes as the Hispanic

precious screen space that should present information. It's easy to overwhelm the program by unwittingly opening too many stacks. An overview map is provided, but you can't click on it to go to the section you seek. And for all the profusion of facts and pictures on this disc, the information often lacks context. For example, what are students to make of the period engravings, attributed to Bartolome de las Casas, of Spanish atrocities in the New World? Bishop Las Casas, a contemporary of Hernando Cortes, did author-scathing indictments of Spanish cruelty toward Indians — but these horrific illustrations were actually drawn years later by a Dutch artist and intended as propaganda for Dutch and English Protestants hoping to dislodge Catholic Spain's grip on the New World. The source notes say nothing about this.

Likewise, there's no mention of the expulsion of Spanish Jews on the very day that Columbus sailed, even though it was Jewish financiers who raised the money for his venture precisely in the hope that a new



world, Columbus's early years, and his four voyages. Within each timeline, individual cards cover single events: his meeting with Fernando and Isabel, the first landing in the New World, and so on. But few students will want to access the information in this atomized, rigidly chronological way. I wish, instead, that Timebox had prepared a single, less-detailed timeline and linked it to complete primary sources and pictures.

The clunky HyperCard interface doesn't make things any easier. Huge buttons and meaningless borders waste

home for Spain's Jews could be found.

Still, there are commendable features: the storybook for younger students, the project ideas, the attention to the needs of students creating reports, and the flexible search engine. With patient guidance, students might be able to make good use of this ambitious but flawed disc.

— Steven Anzovin

Timebox Inc., P.O. Box 3060, Station D, Ottawa,
Ontario, Canada K1P 6H6 (613) 236-8969

♦ ♦ ♦ ♦ ♦

APPLICATIONS

Tempra Vision

DOS

Mathematica

\$79.00

Mathematica's Tempra line of image-manipulation software has been around for a number of years. These DOS-based programs were known for their less-than-intuitive interfaces, but made up for their lack of user friendliness with raw performance. In the pre-Windows world of PC-based paint programs, *Tempra Paint* could beat the pants off most of its competitors when it came to execution speed of complex functions.

Tempra Vision promises to make anyone from "five to fifty...a Tempra Whiz Kid." The colorful packaging shills the prospective purchaser with "Make Games! Paint and Present! Dazzle Your Friends With Multimedia! Win FREE Registration to Tempra Whiz Kid Camp in Orlando Florida."

After such a buildup, many consumers would rightly expect a high-powered kid-oriented paint/multimedia program that's as much fun to use as Broderbund's popular Kid Pix series, but is much more powerful. The power is there all right, but don't waste your time looking for fun here.

Tempra Vision is a textbook case of "the same old wine in a brand new bottle" syndrome. Close inspection of the *Vision* package contents reveals that it contains copies of Mathematica's *Tempra GIF* paint



program, *Tempra Show*, and *Tempra Access* Photo CD software.

The *Tempra GIF/Show* combination has shown up bundled with several manufacturers' video capture boards lately. "Tempra Special Edition," as it's called, is usually provided as a DOS alternative for users who don't want to use the Windows-based software provided with the capture hardware. *Tempra Access* has been a fairly popular product with users looking for a convenient way to access and manipulate images stored on Kodak Photo CDs.

Whatever the merits of those programs,

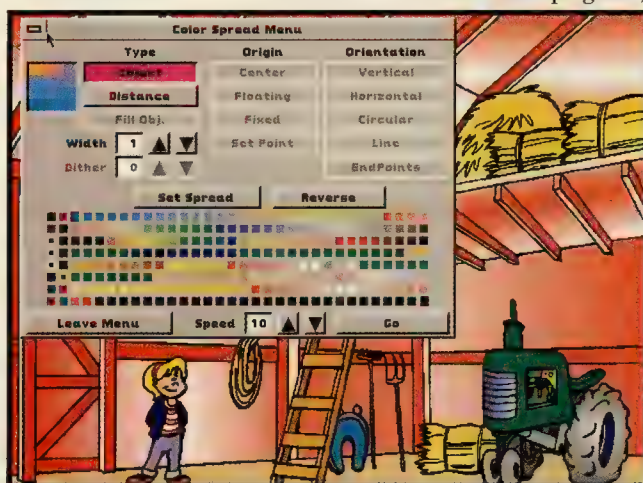
it's hard to excuse the marketing of *Tempra Vision* as software designed for kids. It's just as hard not to notice that all of the "Whiz Kids" featured in the manual live right by Mathematica's headquarters, and that no reference to or examples of anything they've done with *Tempra Vision* is included. Taking three existing software products, throwing some cartoon and coloring-book demos together, and tossing in a well-meaning but weakly written "Whiz Kid Guide" does not earn *Tempra Vision* a ticket in the multimedia-for-kids sweepstakes.

It's a shame that Mathematica felt it was necessary to jump into this market prematurely. Given the power underlying the graphics engines of their image products, versions of *Tempra GIF* and *Show* that were truly tailored for young minds would have made a terrific product.

—Arlan R. Levitan

Mathematica, 402 S. Kentucky Ave., Lakeland, FL
33801 (813) 682-1128

♦ ♦ ♦ ♦ ♦



Professional Tutor: Learning Windows 3.1

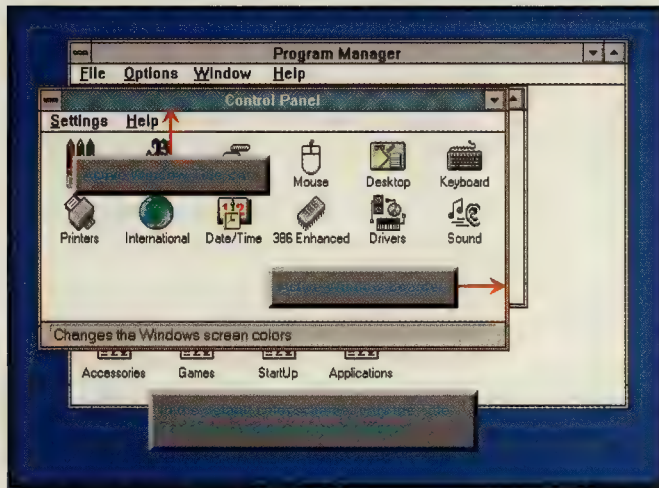
MPC

Paragon Consultants

\$39.95

Conventional wisdom holds that the graphical user interface of Windows 3.1 is much easier to use than the lean (and frequently mean) DOS prompt. However, that doesn't make Windows' GUI easy to use.

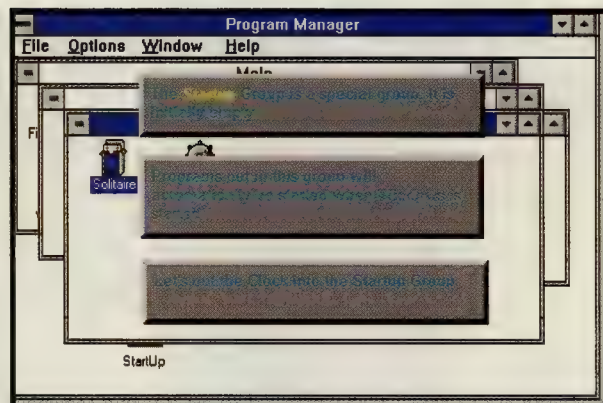
If you don't believe this, place a new



user (or even an experienced DOS user) in front of a Windows desktop screen. Give them a mouse and turn them loose. After several seconds or perhaps a few minutes of confused expressions, you're likely to observe tentative, halting, and often erroneous efforts to make sense of the pointer and folder icons on the screen.

In short, Windows may well be easier to use than DOS, but it still isn't the paragon of intuitive design that some would have us think it is. Like any application, Windows has its learning curve, and it's a climb you must make even if you've mastered DOS.

This latest *Professional Tutor* training CD-ROM takes a GUI beginner to a substantial Windows comfort level in ten



lessons. Using animated screen displays and a steady, communicative narrator, *Learning Windows 3.1* covers the gamut from "Using Your Mouse" to "Customizing Your Windows Environment."

Each lesson consists of an interactive session covering some aspect of Windows operation. The narrator's voice is available in both digitally sampled and direct-from-CD files. While the samples sound clean, the CD-based speech

sounds exactly like having a personal tutor in the room, monitoring your progress.

The lessons cover the Windows interface, running and controlling programs, using Program Manager, changing Options, getting help, file and directory management, use of File Manager, customizing Windows, and printing your work.

Since each lesson takes place within the Windows environment, you learn by actually working with windows, scroll bars, pulldown menus, and icons. When you're asked to open a window or click on an icon, the system monitors your response and, if it's incorrect, directs you to the appropriate action.

Lessons move at an easy, patient

pace, with excellent interactive illustrations of concepts. The narrator, too, strikes a casual, friendly tone that encourages participation.

Each session is followed by a brief pop quiz to reinforce what you've learned. Lessons can be tackled in any

order, and repeated as often as desired.

Windows beginners with MPC-based systems will cut their learning curve dramatically with this CD-ROM. With the help of *Professional Tutor*, Windows is almost as easy to learn as its boosters claim it is.

— Bob Lindstrom

Paragon Consultants, 158 Sandy Dr., Boulder, CO

80302 (303) 442-1613

♦ ♦ ♦ ♦ ♦

MPC Wizard 2.0

MPC

Aris Entertainment

\$14.95

Why did the first version of *MPC Wizard* practically hop off store shelves? Well, computer owners with spanking new CD-ROM drives, eager for affordable titles, found *MPC Wizard* an inexpensive impulse buy — and a convenient way to test and diagnose these new drives. This program made sure the whole computer system was up to multimedia snuff, testing CD speed, color capability, and sound-card support. The disc was also a one-stop source for the latest device drivers for video and graphics cards.

The CD-ROM market continues to blossom, so there are even more eager consumers now — with increased expectations — and version 2.0 does not

disappoint. Revamped and revised, it still meets the same needs, but recent developments in Windows-based multimedia have prompted the addition of some new features. The device driver library has been significantly enlarged with the latest video, audio, and CD-ROM drivers, from a variety of manufacturers. Support

test disc is specially designed to allow an accurate test of your drive's average seek time (also called 1/3 stroke time).

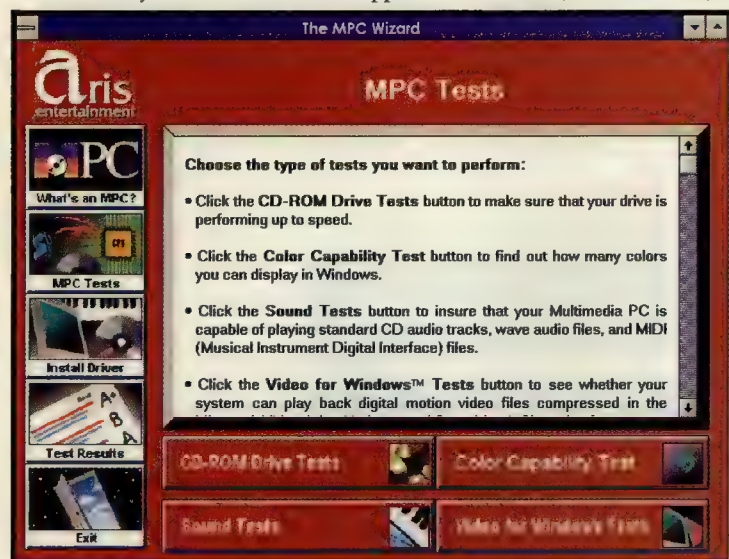
The original version played a tune to prove that your sound card was working. Now 2.0 tests all the combinations possible with today's sound cards: 11/22/44KHz, Stereo/Mono, 8/16 bit — 12

combinations in all. MIDI and CD Audio testing are also provided.

— Charles Brannon

Aris Entertainment, 310 Washington Blvd., Suite 100,
Marina Del Rey, CA 90292 (310) 821-0234

♦ ♦ ♦ ♦ ♦

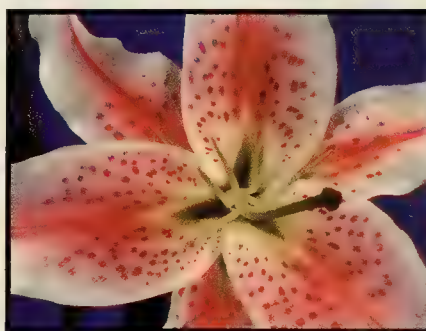


is spotty in some areas, but registered users will qualify for updates as they become available.

MPC Wizard 1.0 compared your system to Multimedia PC specifications (386SX-16; basic VGA; 150KB/s CD-ROM; sound card). These specs are now called MPC Level I. MPC Level II has since been developed, and for it you'll need at least a 486, Super VGA with 65,536 colors, a 16-bit sound card, and a double-speed drive. *MPC Wizard 2.0* makes sure your system meets either of these two minimum recommendations, and compiles all findings into a detailed report (see accompanying screen).

At the heart of the *Wizard* is testing and diagnostics. Where version 1.0 simply tested drive access speed, the newest edition now tests to multimedia specs: at least 150KB/s while using only 40 percent of your computer's processing speed for Level I, and 300KB/s using no more than 60 percent of CPU time for Level II. The

playback. Version 2.0 lets you see for yourself what your machine is capable of, with a video of Kennedy's "moon mission" speech leading into a tour of the solar system. The bonus "Best of Multimedia Clips" includes eight sample videos, in



addition to 60 photos with accompanying sound clips.

MPC Wizard 2.0 walks you through all the myriad technical and setup issues with clear on-screen explanations, and if you're not happy with the results of a test, choose Troubleshooting Tips to display some possible remedies.

Consider this product an inexpensive

combinations in all. MIDI and CD Audio testing are also provided.

Also arriving on the scene since the release of version 1.0 is Microsoft Video for Windows.

Alas, all computers are not alike when it comes to smooth video

Coming Next Issue

Getting Started with Photo CD Part 2 — The Digital Canvas
Image editing, manipulation, and morphing

A Shareware Salvo
There's more arriving on CD-ROM everyday — we'll tell you what we recommend

Inside ReelMagic
The straight scoop on Sigma's new MPEG board

Plus helpful feature articles, hardware update, dozens of reviews, news, and much more!

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Home Shopping On CD-ROM

Get ready for a deluge of CD-ROMs that bring a computer software store into your home. Over the next few months you'll be seeing numerous offers for free or low-cost CD-ROMs containing dozens of commercial software products. These CDs will have everything from major applications such as *Adobe PhotoShop* to font collections and games. And everything is ready for installation on your hard drive after you phone in a credit-card number to get an unlocking code.

Several companies are jumping into this market: Apple, which surprisingly will distribute Windows as well as Macintosh software; Instant Access, in a partnership with Multiple Zones, the mail-order company behind those PC Zone and Mac Zone magazine ads; IBM, with CD Showcase; Info Now, whose Store-on-a-Disc will be bundled with PCs from Gateway 2000 and IBM's Ambra subsidiary; Ingram Micro and Merisel, two giant software distributors; and TestDrive, whose CD-ROM is called SuperStore.

Details vary, but the general concept is the same. Instead of buying a bulky package of paper manuals and floppy disks at your local dealer or by mail, you leisurely peruse a CD-ROM. You can actually try some of the programs on the CD, though their functionality is limited. Others are promoted with animated demos and information screens.

When you're ready to buy, you can phone in your order whenever you wish. If you suddenly discover at 3 a.m. that you need a certain paint program to tame that pesky TIFF file, or if you crave a particular TrueType font to put the finishing touches on a report due at 9 a.m., no problem. Just dial the 24-hour order line, tell the operator what you want, and fork over your credit-card number. You'll get a special code that unlocks the encryption on that product and allows you to install it on your hard

drive. Even Federal Express can't beat a path to your door that quickly.

Home shopping on CD-ROM has other advantages, too. Prices will be comparable to mail order or a little lower. Software installation is usually faster and easier, especially with huge applications that normally would keep you chained to your computer while shuffling through a stack of floppies. Software registration is automatic; the operator takes care of all that, so there are

no warranty cards to fill out and mail.

Another advantage with most home-shopping CD-ROMs is that the CD becomes an archival backup for your hard drive. If your drive crashes or your computer is stolen, you can phone the sympathetic operator, verify that you're a registered user, and get a new unlocking code to

Apple, IBM, and many others are now jumping into the home-shopping software concept with CD-ROM — and there are lots of advantages for the consumer: instant delivery, certain backup, faster installation, low prices, and 24-hour service.

reinstall the software.

What about manuals? That's one of the details that varies. For instance, Apple's CD-ROM contains both the full text of each product's documentation and a graphic image of every page. In some ways that's better than paper because you can rapidly search the text for desired topics, and you still get all the illustrations found in the actual manuals. But if you insist on having paper copies of the docs, it'll probably cost a little extra. For example, Instant Access charges \$3 to ship the manuals overnight.

Will home shopping on CD-ROM succeed? There's no doubt that instant gratification has powerful sales potential. On the other hand, some people will always prefer hands-on shopping in a real store. But even the shop-'til-you-droppers can benefit from the try-before-you-buy CD-ROMs. Remember that shareware has thrived on a similar concept for years. This idea looks like a winner.





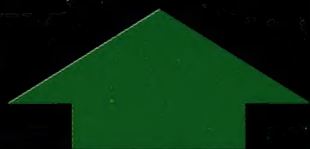
Around here nice guys don't finish last - they don't even finish. Better know how to drive or Catfish Louie and company will take turns making your Backroad Racer a pile of twisted, burning wreckage. Then taunt you as you watch instant replays of your wipeouts. Video clips give hints and make threats while you try to outrun cops and race on four different tracks. Use 3-D animated instructions to build a model of your car so it's easier to identify the torched remains. Available for IBM on CD-ROM.



The model makes the game better. The game makes the model better.™

Video clips just like this one make the game extra bad. But in a good way.

After you build your car you can follow all traffic laws and be a safe & courteous driver.



*{Of course, you
could also go play
an action-packed
game of hopscotch
with your sister.}*



**BACKROAD
RACERS™**

Product Information Number 158

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SCREEN
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